1190

# F-100 Super Sabre

## in action

Don Greer

Aircraft Number 190

squadron/signal publications

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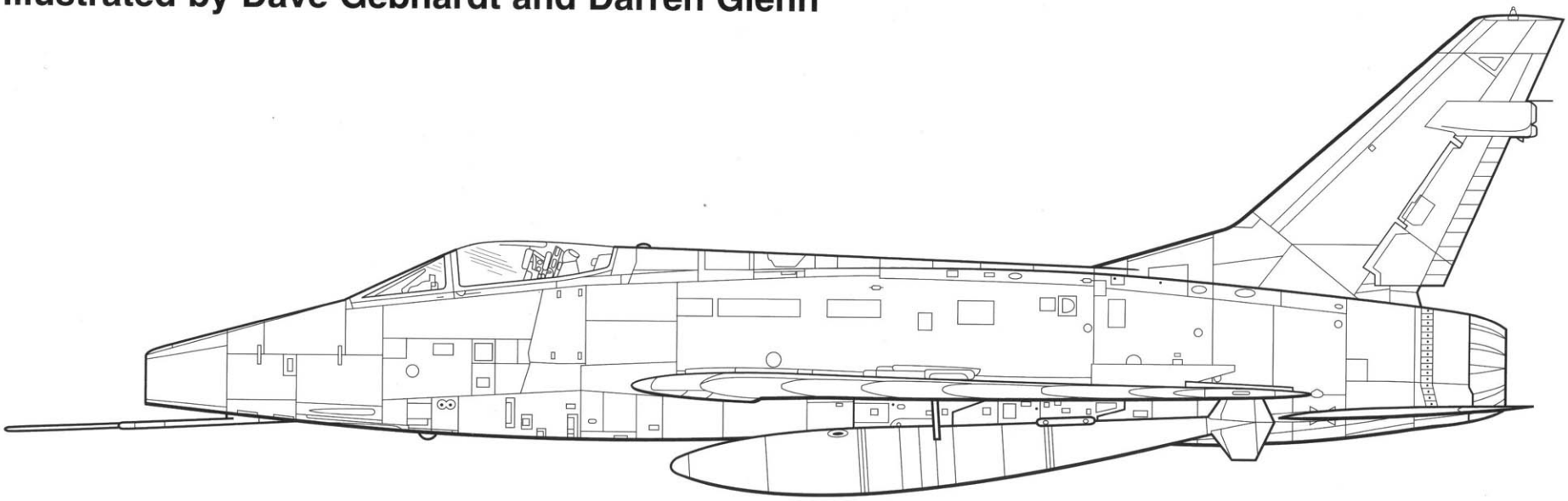
## in action


**By Larry Davis and David Menard**

**Color by Don Greer**

**Illustrated by Dave Gebhardt and Darren Glenn**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**Captain Don Kilgus pilots his F-100D Super Sabre, "KAY LYNN" (55-2894), over southern North Vietnam during the spring of 1965. He was assigned to the 416th TFS 'Silver Knights,' 21st TFW at Da Nang AB, South Vietnam. Kilgus shot down a North Vietnamese MiG-17 (Fresco) over Thanh Hoa, North Vietnam on 4 April 1965; however, the US 7th Air Force awarded only a 'probable' victory to Kilgus. Super Sabres were escorting F-105D Thunderchiefs in a strike against North Vietnamese railroad bridges.**

# Acknowledgements

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**This Silver painted F-100D Super Sabre (56-3265) was assigned to Colonel George Laven, Jr. of the 510th Tactical Fighter Squadron (TFS), 405th Tactical Fighter Wing (TFW) in May of 1964. The aircraft taxis on the ramp at Clark AB, the Philippines, the 405th TFW's home field, prior to deploying to England AFB, Louisiana. Bands on the nose and wing tanks are colored to represent (from front) the 509th TFS (red), 508th TFS (yellow), and 510th TFS (blue). The logo 48-24 painted under the windshield is Laven's personal marking. When queried what that was about, Col Laven replied: *"Forty-eight years old, 24 years in the Air Force."* The Pacific Air Forces (PACAF) emblem is painted on the vertical stabilizer. (Don Spering)**

RED LEADER
48-24
U.S. AIR FORCE
FW-265
63265

# Introduction

The North American Aviation **F-100 Super Sabre,** often nicknamed 'The Hun' (for Hundred), was the first production aircraft to exceed the speed of sound in level flight. North American's F-86 Sabre and some other early jet aircraft easily broke the sound barrier in a dive. The rocket-powered Bell X-1 series also broke the sound barrier, but they could not take off under their own power. The 'Hun' could break the barrier at any time and it was a true aircraft, breathing air to make power and able to take off and land under its own power. Based as an evolution of the F-86 design series, the F-100 was truly a 'Super Sabre.'

Following on the success of the F-86 Sabre program, North American Aviation (NAA) began an in-house program to increase the Sabre design's total performance on 3 February 1949. This design would make the Sabre capable of flying at Mach 1 speed and beyond in level flight. The F-86 Sabre design was limited to approximately 0.95 Mach in level flight. Several proposals were put forth, including installation of a much larger engine and a complete redesign of the airframe including the wing sweep angle, to decrease the drag co-efficient of the basic design. All of these proposals would require a total redesign of the airframe, not simply bolting in one of the new, higher thrust engines or a simple change in the wing.

The United States Air Force (USAF) had no need for such an aircraft in 1949. It was true that the Soviet Union was now considered the United States' primary enemy. The Soviets had just unveiled the new Mikoyan-Gurevich MiG-15 jet fighter (NATO codename Fagot), then considered the finest interceptor in the world. The USAF had the F-86, which would prove equal to the MiG in the coming months. With no actual war, nor any aircraft that was truly better than the F-86, the USAF was wondering what did we need this new design for? Events in the Far East during 1950 would change all that thinking.

**This YF-86D (50-577) served as the prototype for North American's 'Sabre 45' proposal. The aircraft was modified with a 45° swept wing and its horizontal stabilizers were moved from the vertical tail to the lower fuselage. The latter modification required moving the speed brakes from the aft fuselage sides to the upper fuselage. (Warren Bodie)**

The first event was the attack by North Korean forces against South Korea on 25 June 1950 and President Harry Truman's commitment of US forces – especially air forces – to defend South Korea and beat back the communist aggressors. The second major event was the introduction of the Soviet-built MiG-15 into the Korean action during early November of 1950. Overnight, the MiG-15 rendered every aircraft type operating in the Far East obsolete. The US Fifth Air Force (5th AF) effectively countered the MiG threat with the deployment of the F-86A-equipped 4th Fighter Group during December of 1950.

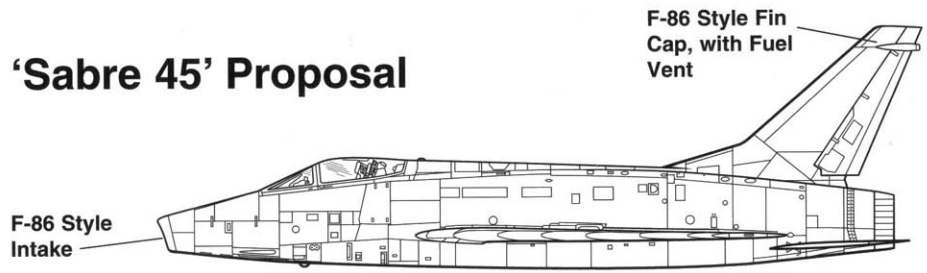
Both the F-86A and MiG-15 were reasonably equal in most of the flying characteristics. The major difference in the final outcome of aerial combat in Korea lay with the American pilots and the F-86's radar-ranging gun sights. Both North American and the Air Force realized that the air supremacy that had been so hard fought and won by 5th AF Sabre pilots could be lost just as easily if the Soviet unveiled a newer and better MiG. The USAF needed a new generation fighter aircraft to contend with any future Soviet air threat and North American already had such a proposal on the drawing boards.

Back on 14 September 1949, North American Aviation had begun wind tunnel testing on an F-86D that was fitted with a new wing swept at 45°. This was a greater sweep angle than the 35° sweep of the standard F-86 Sabre wing. The modified F-86D was known internally at North American as the 'Sabre 45' and was projected to reach Mach 1.03 in level flight utilizing an afterburning version of the standard F-86 engine – the General Electric J47-GE-17 turbojet. In addition to the new wing design, the 'Sabre 45' had the horizontal stabilizer moved from low on the vertical tail assembly to the lower aft fuselage section.

North American offered the new design to the Air Force on 25 August 1950 – two months after the Korean War started – but it was rejected. After all, 5th AF F-80 Shooting Stars were handling anything the North Korean and Chinese air forces could put up against them in Korea. However, the USAF did express interest in such an aircraft for the future. North American Aviation officials took that as a 'maybe' and gave the official go-ahead to their design team on 19 January 1951. This initiated a fully company-funded program that would develop the new 'Sabre 45' design, now officially called design number **NA-180**.

Five months later – on 14 May 1951 – North American made an official proposal to the Air Force and asked for authorization and funding to build two prototype 'Sabre 45' aircraft. The USAF issued contract letter AF33(600)-6545 on 1 November 1951. This authorized the funding for the two prototype aircraft, the tooling to build the two prototypes, design materials, and any long lead time materials and equipment for a possible initial production run of up to 94 aircraft. North American had a 'Sabre 45' mockup ready for inspection eight days after the contract was issued. This mockup was enthusiastically approved by Air Force officials. On 7 December 1951, the Air Force changed the program from 'Sabre 45' to F-100, the first of the 'Century Series' fighter aircraft.

## 'Sabre 45' Proposal



# YF-100A (NA-180)

The initial NA-180 design looked somewhat like a flattened, fat F-86 with a bulging fuselage and oval-shaped air inlet. The NA-180 was larger overall, nearly ten feet (3 M) longer than an F-86; however, the wingspan was actually shorter than an F-86 wing by almost one and a half feet (0.5 m). The NA-180's wing area of 376 square feet (35 $M^2$) was greater than the 302 square feet (28 $M^2$) of the F-86F wing with 6-3 modifications.[1] This new wing was designed without flaps, but had large mid-span ailerons and automatic leading edge slats.

The fuselage was designed to accept the much larger Pratt & Whitney XJ57-P-1 engine, which was much larger in diameter than the J47 used in the F-86. Internally, all the fuel would be held in five fuselage fuel tanks totaling 757 gallons (2866 L), with two underwing drop tanks holding an additional 550 gallons (2082 L) of JP-4 jet fuel.

The F-100 was the first aircraft to use titanium from the start of its design. This light weight and strong metal has greater heat resistance than aluminum; however, titanium is difficult to work with, which increased the production cost of the Super Sabre. Through 1954, North American Aviation consumed 80 percent of the titanium produced in the US for F-100 production. Titanium covered the aft fuselage section, while aluminum skinning was used on the rest of the airframe.

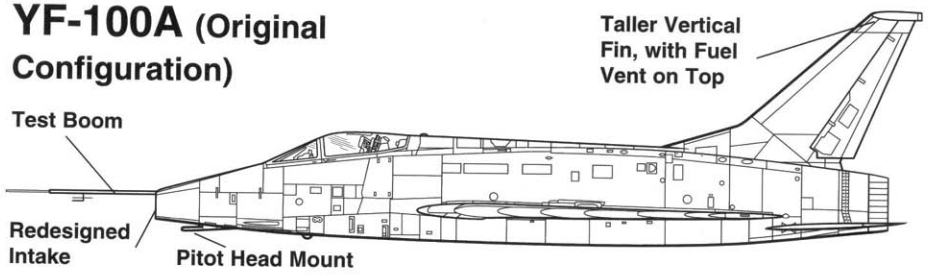
Armament was specified to be four 20MM Pontiac T-160 (standardized as the M39) cannon mounted under the forward fuselage, with 275 rounds per gun. The fire control system would be the standard of the era, an AN/APG-30 ranging radar system using a Sperry type A-4 lead computing gun sight. With an ejection seat and combat loading, the YF-100A was estimated to have a combat weight (weight over the target) of 25,180 pounds (11,422 KG), making it fully 9000 pounds (4082 KG) heavier than the F-86A. Equipped with the XJ57-P-1 engine, which was estimated to have 13,200 pounds of thrust in afterburner, the YF-100A's maximum speed was estimated at 752 MPH (1210 KMH) at 35,000 feet (10,668 M).

The USAF authorized production of two **YF-100A** prototypes and 23 production **F-100A**s on 25 January 1952. On 23 June 1952, the Air Force approved a 'new' revised mockup of the YF-100A, which incorporated several changes in the basic design. These included a complete redesign of the air intake opening that resulted in the now-famous flat lip that all production F-100s would have. Other changes included installation of the all-flying tail with power-operated irreversible flight controls that had been combat tested on the F-86E and F Sabres in Korea; and installation of a 16 foot (4.9 M) diameter drag chute to aid in stopping the larger and heavier fighter. Inexplicably, the vertical tail's height was reduced from 14 feet 9.6 inches (4.5 M) to 13 feet 9.6 inches (4.2 M) – a change that proved disastrous.

The first YF-100A (52-5754) was completed at NAA's Inglewood, California plant – adja-

[1]The F-86F's 6-3 wing had its leading edge extended six inches (15.2 CM) at the wing root and three inches (7.6 CM) at the wing tip.

**YF-100A (Original Configuration)**



**The first YF-100A (52-5754) uses its 16 foot (4.9 M) diameter brake parachute to slow to a stop at Edwards Air Force Base (AFB), California after its first flight on 25 May 1953. North American's chief test pilot George Welch flew this aircraft past the sound barrier on this occasion. The long test instrument probe was mounted above the nose intake, while the smaller pitot tube was fitted below. (USAFM)**

**The first YF-100A prototype (52-5754) flies over Southern California in 1953. The Super Sabre was the first production aircraft capable of breaking the sound barrier in level flight. Early in the test program, the two nose probes switched locations, with the longer test probe fitted below the intake. All lettering on the aircraft was Insignia Blue. (USAFM)**

**The first F-100A (52-5756) makes a test flight over Southern California in late 1953. It has a long test probe mounted under the nose. Service aircraft had a pitot tube probe of shorter length in this position. This aircraft was rolled out of North American's Inglewood, California plant on 25 September 1953 and first flew the following 29 October. The first 70 F-100As had the vertical tail height reduced by one foot (0.3 M) from the YF-100's 14 feet 9.6 inch (4.5 M) tall vertical tail. This brought the F-100A's height down to 13 feet 9.6 inches (4.2 M). The US Air Force assigned FW 'buzz codes' to F-100s, which included the last three digits of the aircraft's serial number. Two red bands around the aft fuselage warned ground crews of the J57 engine's turbine location. (NAA)**

cent to Los Angeles International Airport – on 24 April 1953. This step followed the expenditure of over one million man-hours of design and construction. After the usual rollout ceremonies, the YF-100A was disassembled and trucked to the Edwards Air Force Base (AFB) test facility in the Mojave Desert, just north of Los Angeles. The YF-100A was then re-assembled and began an extensive flight test program. Both YF-100A aircraft (the second prototype was 52-5755) were completed using the experimental Pratt & Whitney XJ57-P-1 non-afterburning engine, whose maximum thrust was rated at 8500 pounds

North American's chief test pilot George Welch[2] took the YF-100A into the air for the first time on 25 May 1953. Following a brief checkout of all the flying systems, Welch received the go-ahead to see if the YF-100A could perform as advertised – break the sound barrier without diving the aircraft. He pushed the throttle forward to maximum thrust and the YF-100A easily passed through the sound barrier, in spite of the lower performance engine. It was confirmed upon landing that the YF-100A was now the first operational aircraft in the history of the world to break the sound barrier in level flight. The afternoon test flight produced the same result.

Phase II Flight Tests began in July of 1953, with Air Force pilots taking over the test program from the civilian test pilots. On 17 September, the Phase II program ended and the official Air Force report concluded that *"the YF-100A.....outperforms any other production fighter in the Air Force."* However, there was some criticism centering on the aircraft's lack of directional stability at high Mach and high G (force of gravity) loads. The vertical stabilizer and rudder were unable to deal with the pitch and yaw forces encountered when the aircraft rolled. This resulted in the vertical tail failing to work and the aircraft losing control. To both offset this inertia coupling[3] effect and to improve static directional and lateral stability[4], the vertical tail area was increased by 27 percent. Because of a change in engine center of gravity that had caused an aft shift in the aircraft center of gravity, the wingtips were extended two feet two inches (0.7 M), from 36 feet 7 inches (11.2 M) to 38 feet 9 inches (11.8 M).

Eight days after completion of the Phase II tests, the first production F-100A (52-5756) was completed. October was a historically significant month for the F-100 program. On 14 October, the second YF-100A (52-5755) first flew and the USAF accepted the first F-100A production aircraft (52-5756) 12 days later. On 29 October, Colonel Frank K. 'Pete' Everest flew the first prototype (52-5754) through the sound barrier. He broke the World Speed Record over the Salton Sea, California 15 KM (9.3 mile) course at 755.149 MPH (1215.261 KMH). Everest had one run at 767.337 MPH (1234.875 KMH). George Welch took the first production F-100A into the air on its first flight that same afternoon.

The first YF-100A was used almost exclusively for flight tests, while the second YF-100A was used for armament test and evaluation. Both YF-100As completed their flight test programs on 1 August 1956, following a total of 396 test flights. Major Clyde Good flew the first YF-100A from Inglewood to Lowry AFB near Denver, Colorado in the record time of 1 hour 25 minutes 59.8 seconds. He averaged 589 MPH (948 KMH), breaking the old Los Angeles to Denver record by 230 MPH (370 KMH)! The YF-100A was displayed at Lowry when it served as the temporary site of the US Air Force Academy. The aircraft was moved to the Academy's permanent site in Colorado Springs when it opened in 1958. The second YF-100A is now displayed at the Air Force Flight Test Center at Edwards AFB.

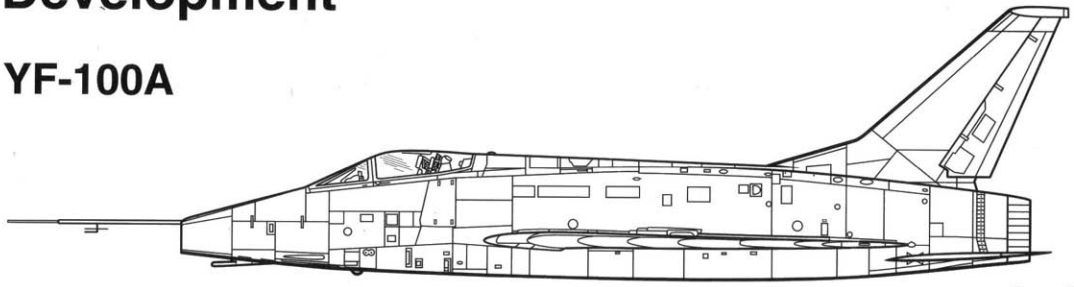
[2]Welch was one of only five US pilots to take off during the Japanese attack on Pearl Harbor, Hawaii on 7 December 1941. He claimed four Japanese aircraft shot down in his Curtiss P-40 that day.

[3]Inertial coupling is the tendency for inertia to overcome stabilizing aerodynamic forces in maneuvers. This results in the aircraft rolling rapidly and going out of control.

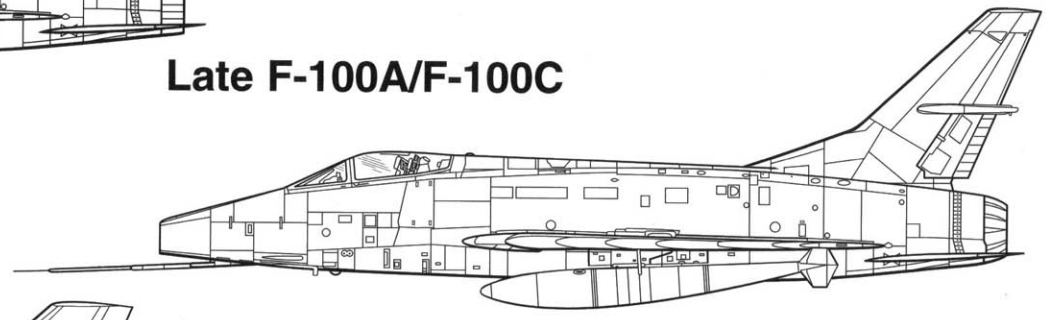
[4]Lateral stability is attained by action from the aircraft's weight, particularly by the aircraft having a low center of gravity.

# Development

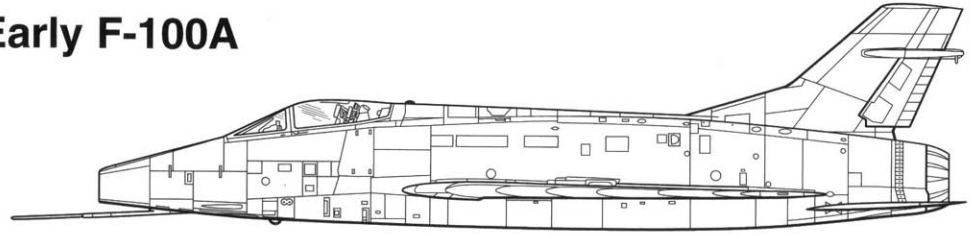
## YF-100A



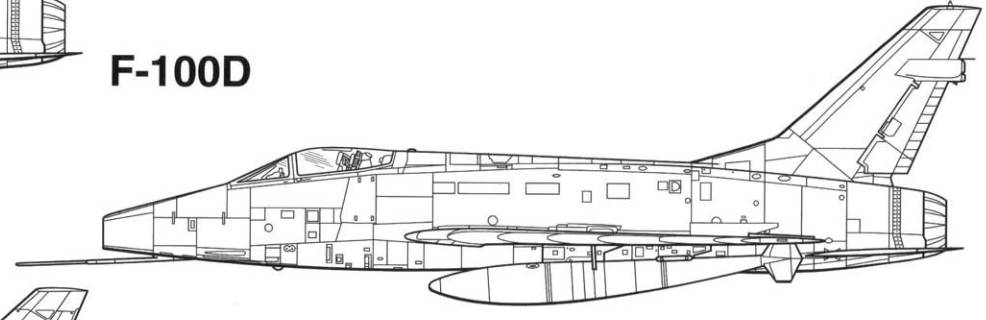
## Late F-100A/F-100C



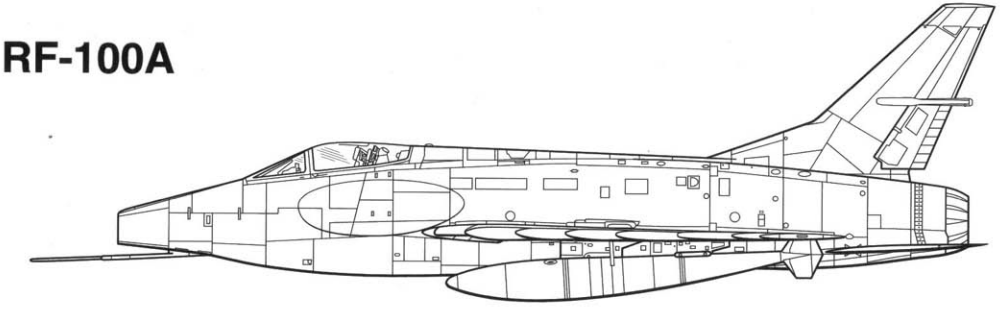
## Early F-100A



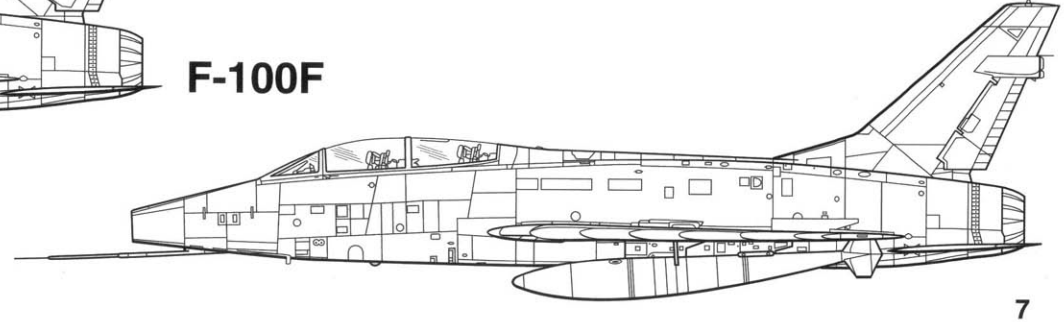
## F-100D



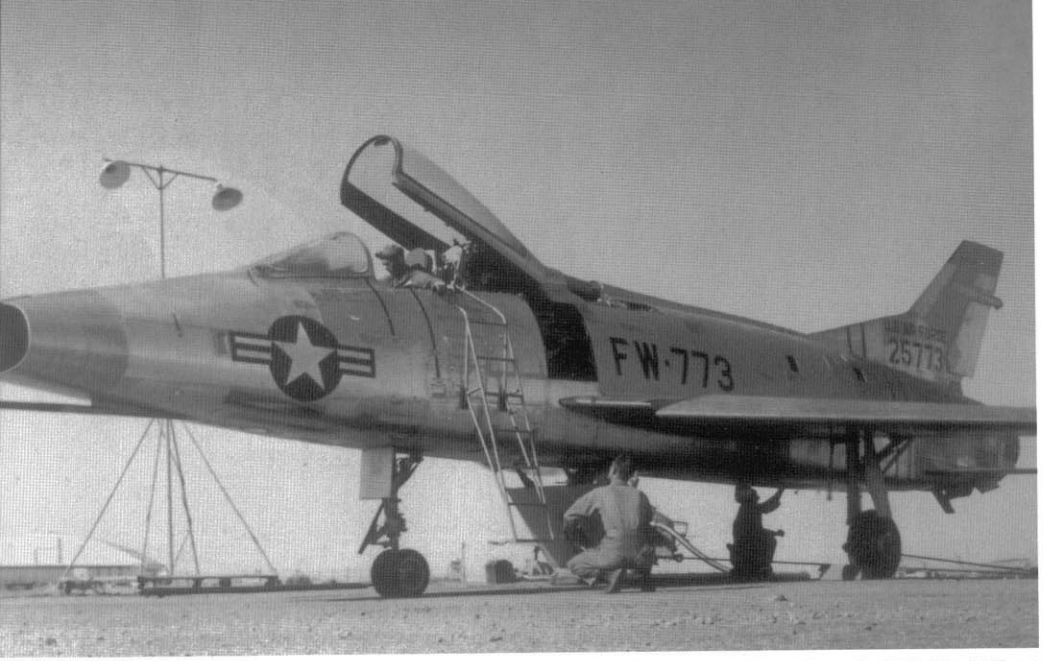
## RF-100A



## F-100F



# F-100A Super Sabre (NA-192)




**One of the early F-100A-5s (52-5773) is parked on the ramp at the Edwards AFB Flight Test Center in early 1954. The national insignia was painted on the Super Sabre's nose, which was the early location for this emblem. The insignia was later moved to the aft fuselage when U.S. AIR FORCE was painted on the nose. An access ladder is mounted on the cockpit ledge while a mechanic works in the cockpit. (USAFM)**

The differences between the YF-100A and the F-100A production aircraft centered around two major points – the vertical tail and the engine. The vertical tail was shortened from 14 feet 9.6 inches (4.5 M) to 13 feet 9.6 inches (4.2 M). The YF-100A had been powered by a non-afterburning version of the Pratt & Whitney J57 engine, which still successfully took the aircraft through the sound barrier in level flight. F-100As were powered by production versions of the J57-P-7 engine rated at 13,200 pounds of thrust in afterburner.

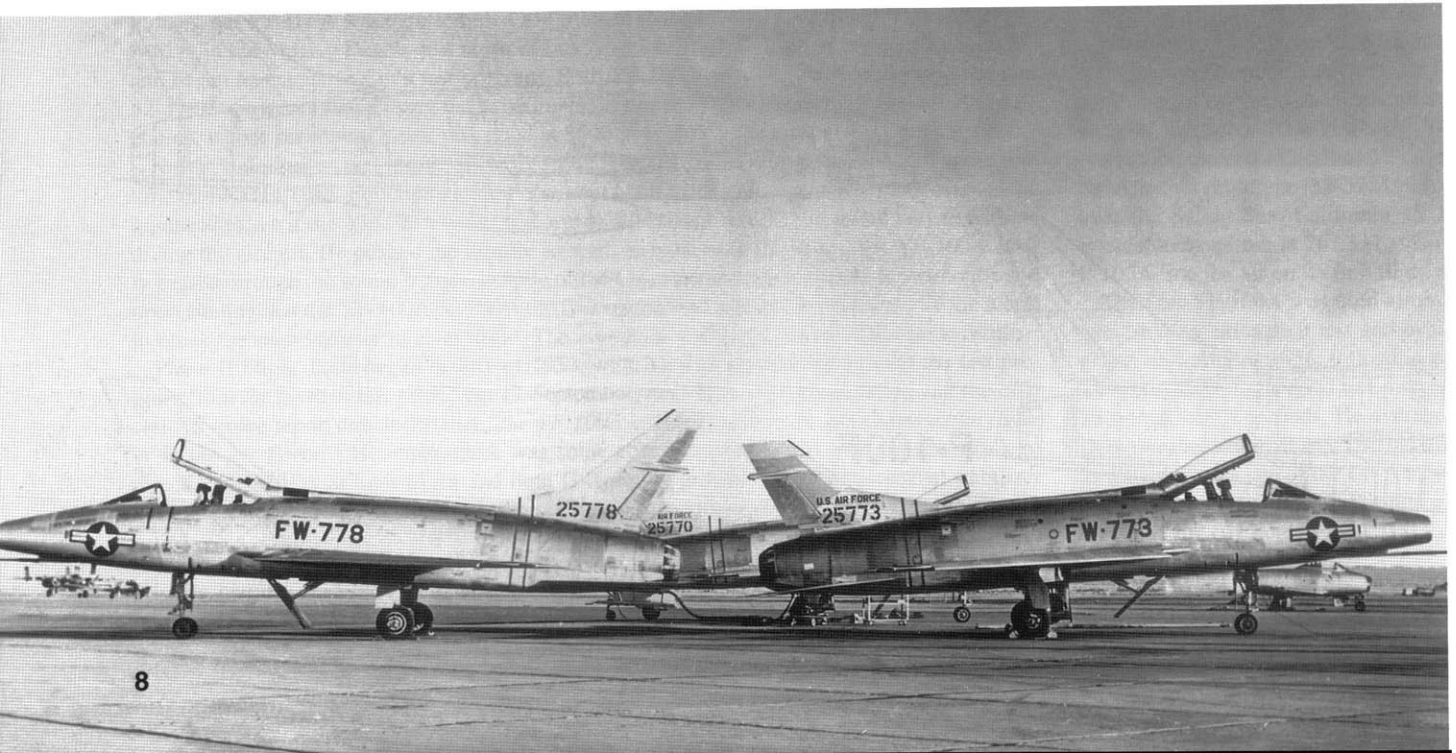
By the end of 1953, the F-100A had flown to Mach 1.345 in level flight at 35,000 feet (10,668 M). The US Air Force had authorized North American to build 273 F-100A aircraft, all of which were to include the changes called out in the Phase II test results. Additionally, the last 70 aircraft on the F-100A contract would have full fighter-bomber provisions and were redesignated as **F-100C**s.

On 1 October 1954, less than a year after the first flight of the F-100A, the initial batch of production aircraft arrived at George AFB, California and were assigned to the 479th Fighter Day Wing (FDW). Eleven days later, on 12 October, George Welch was conducting some high Mach structural demonstration flights in F-100A (52-5764) when the aircraft suddenly came apart in mid-air at Mach 1.4 and with a force of 7+Gs[1] on the aircraft, killing Welch.

There had been several other minor crashes with F-100As during the test program, but none had come close to being fatal. The USAF grounded the entire F-100 fleet on 10 November, pending an investigation board's inquiry into the crash. The board concluded that the shortened vertical tail was the primary cause of the crash, and on 21 February 1955, Air Force ordered all F-100As to be completed and/or modified with a new vertical tail assembly that was 27 percent larger than the initial short production tail.

Additional changes that were incorporated in the F-100A during its production and operational run included a retractable tail skid, a yaw damper to improve directional stability, and a pitch damper to improve longitudinal stability. On 17 December 1954, President Dwight Eisenhower presented James H. 'Dutch' Kindelberger, Chairman of North American Aviation, with the Collier Trophy for outstanding aviation achievement – the development of the world's first operational supersonic jet fighter, the F-100A Super Sabre.

[1]G: Force of Gravity. Seven Gs means seven times the force of gravity.




**Following the disastrous crash of F-100A (52-5764) that killed George Welch, the US Air Force authorized North American to redesign the vertical tail, restoring it to its original height of 14 feet 9.6 inches. Additional pitch and yaw dampers were added to the flight controls to improve stability. An F-100A (52-5773) with the early tail is parked aft of another Super Sabre (52-5778) equipped with the taller vertical tail. (NAA)**

The F-100A Super Sabre was an all-metal monoplane, whose wing was mounted low on the fuselage and swept back 45° at the quarter chord (width) line. Automatic slats were mounted along the wing leading edges, while ailerons were fitted to the outboard trailing edges. The F-100A employed an all-flying horizontal tail, which combined the functions of both the horizontal stabilizers and the elevators. A three-piece framed windshield and a clamshell bubble canopy covered the cockpit.

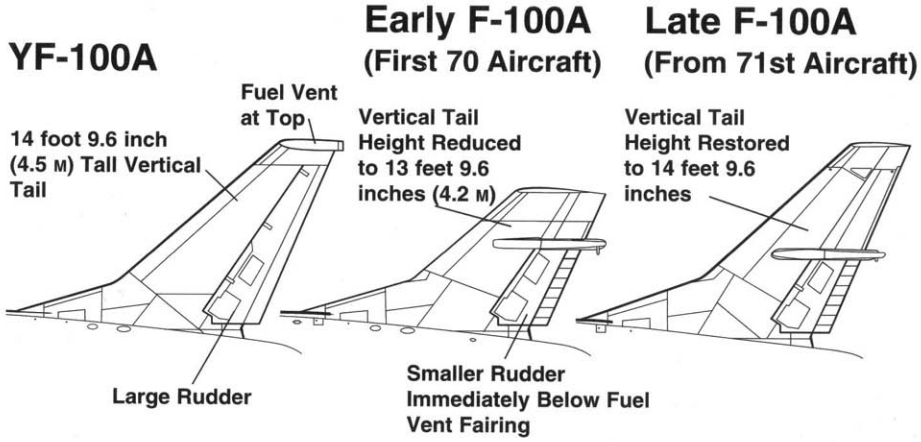
It had a wingspan of 38 feet 9.375 inches (11.8 M), with an overall length of 53 feet 11 inches (16.4 M). The fuselage was 47 feet 1.25 inches (14.4 M) long, while a 6 foot 9.8 inch (2.1 M) pitot probe was mounted on the nose undersurface. The F-100A's height was 15 feet 6 inches (4.7 M). This aircraft weighed 18,185 pounds (8249 KG) empty and 32,500 pounds (14,742 KG) at maximum take-off load.

It was armed with four 20MM Pontiac M39 cannon with 275 rounds per gun on the fuselage undersurface. Two hard points on the wings supported up to 5000 pounds (2268 KG) of ordnance. The first 166 F-100As were equipped with one 14,800 pound thrust Pratt & Whitney J57-P-7 afterburning turbojet engine. The 167th aircraft introduced the J57-P-39, which had the same thrust as the P-7. This aircraft's maximum internal fuel capacity of 744 gallons (2816 L) was increased to 1294 gallons (4898 L) using external fuel tanks. The F-100A had a maximum speed of 852 MPH (1371 KMH) at 35,000 feet (10,668 M). Its service ceiling was 44,900 feet (13,686 M), its maximum range was 1294 miles (2082 KM), and its combat radius amounted to 358 miles (576 KM).

F-100A production ended with the 203rd aircraft in April of 1955. The history of the F-100A also includes NAA test pilot George Smith, who survived the first supersonic bailout from an F-100A at 8000 feet (2438 M) and in excess of Mach One on 26 February 1955. Smith ejected after the aircraft's controls jammed. In February of 1958, the first F-100As were transferred to an Air National Guard (ANG) unit, the 188th Fighter Interceptor Squadron (FIS), New Mexico ANG, at Kirtland AFB, New Mexico.

The first F-100s were handed over to the Military Assistance Program (MAP) in 1958. In October, the Republic of China (Nationalist) Air Force on Formosa (Taiwan) received the first of 118 F-100As. These F-100As were later retrofitted with the **F-100D** vertical fin under Project F-100A REHAB. This added the stability and strength of the larger F-100D vertical tail and offered the Radar Homing And Warning (RHAW) system protection that was installed in combat F-100Ds. Taiwan flew the F-100A until 1979, seven years after the last F-100A was retired from US Air Force service.

## Vertical Tail Development



**An early F-100A (53-1555) sits on the ramp at Nellis AFB, Nevada in October of 1954. The first F-100As were delivered to the Air Force that month. The Air Training Command (ATC) insignia is painted on a Black (FS17038) and Orange Yellow (FS13538) checkerboard band on the tail. Red stripes flank the checkerboard band, with RESEARCH above and DEVELOPMENT below in White. (Curt Burns)**

**This F-100A (53-1667) was assigned to the 436th Fighter Day Squadron (FDS), 479th Fighter Day Wing (FDW) at George AFB, California. It is displayed at the base on Armed Forces Day in May of 1955. Nose and tail bands are Orange Yellow, with Black trim and an arrow on the tail band. The F-100A was strictly an air superiority fighter and was assigned to FDSs. (Larry Long)**

Two F-100As from the 434th FDS, 479th FDW share ramp space at George AFB in January of 1956. The 45° swept wing was equipped with full span leading edge slats, which provided greater lift at take off and landing. Large ailerons were fitted to the trailing edges, but no flaps were installed. The background F-100A (53-1700) was assigned to Col George Laven, Jr., Commanding Officer (CO) of the 479th. (USAF)

The F-100A air intake was completely redesigned from the 'Sabre 45' proposal and incorporated a small AN/APG-30 ranging radar in the upper lip. A red cover fitted inside the intake prevented Foreign Object Damage (FOD) when the aircraft was not flying. The high-visibility cloth cover placed over the pitot tube kept it clean and dry, and improved visibility for ground personnel working near the probe. (NAA)

The first F-100As were transferred to Air National Guard (ANG) squadrons in February of 1958. That month marked when the 188th Fighter Interceptor Squadron (FIS), New Mexico ANG transitioned from its aging Lockheed F-80C Shooting Stars into the supersonic F-100. This aircraft was the first actual production F-100A (52-5756), which had been retrofitted with the taller vertical tail. Nose and tail trim is black with yellow edging. Outgoing F-80Cs line the ramp at Kirtland AFB, near Albuquerque. (NMANG)

# RF-100A SLICK CHICK

The US Air Force wanted a reconnaissance fighter aircraft with supersonic capability in 1955. This would replace both the RF-86F Sabres then operating in the Far East and the Republic RF-84F Thunderflash aircraft entering the inventory. The only airframe available at this time was the F-100.

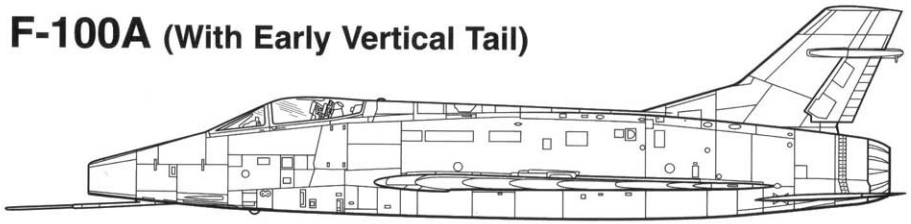
North American modified six F-100A aircraft into **RF-100A**s under Project SLICK CHICK in March and April of 1955. They removed all four 20MM M39 guns and replaced them with a suite of five cameras. The underside of the forward fuselage was bulged to cover the camera suite and the fuselage sides were bulged out for clearance of the film magazines. Dimensions and performance were the same as for the standard F-100A.

Three RF-100As were initially used in Europe, while the other three went to the Far East with the 67th Tactical Reconnaissance Wing (TRW) at Komaki Air Base (AB), Japan. In the meantime, the USAF selected the McDonnell RF-101A/C Voodoo as its standard tactical reconnaissance aircraft and ended further interest in the RF-100A. Following service with USAF squadrons, the RF-100As were transferred to the Republic of China Air Force on Formosa (Taiwan).

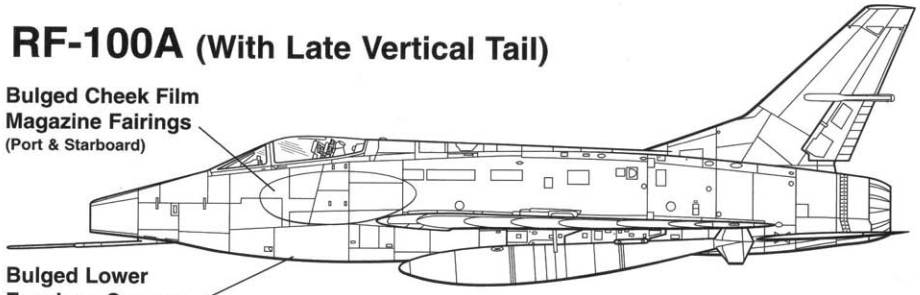
**An RF-100A SLICK CHICK (53-1551) lifts off from Los Angeles International Airport, home of North American Aviation, in March of 1955. The large bulge covering the camera suite protrudes from the forward fuselage under the cockpit. North American built six RF-100As for the US Air Force. (Via Dave Menard)**

**An RF-100A SLICK CHICK (53-2600) soars over cloud covered Japan in September of 1956. North American modified six aircraft to RF-100A specs. Initially, three RF-100s were assigned to units in Europe and three RF-100s went to the 67th Tactical Reconnaissance Wing (TRW) in Japan. Spurious F-89D Scorpion buzz (FW 600) and serial numbers are painted on this SLICK CHICK. (USAF)**

## F-100A (With Early Vertical Tail)



## RF-100A (With Late Vertical Tail)



# F-100C Super Sabre (NA-214)

In October of 1952, the US Air Force requested that North American study the possibility of using the F-100 wing as an additional fuel tank similar to that used on the F-86, i.e. the entire wing structure was a sealed fuel cell. North American completed the study in June of 1953, indicating to the Air Force that this could be done.

No sooner was that study completed when the USAF requested a second study regarding the wing – could North American 'beef up' the wing for additional carriage of underwing ordnance and/or external fuel tanks? The F-100A wing had only two hard points for either bombs or fuel tanks. This new design incorporating the 'beefed, wet wing' was designated F-100C and the last 70 aircraft on the F-100A contract were completed as this new variant. Additionally, the USAF granted an additional contract designated AF 33(600)-26962, authorizing production of a further 230 F-100C airframes on 24 February 1954. F-100C production began at Inglewood on 25 March 1954.

The F-100C differed from the F-100A in several areas, most reflecting its new mission as a fighter-bomber. Besides the strengthened wing that now had six hard points, the F-100C had the new MA-2 Low Altitude Bombing System (LABS) for 'toss-bombing' nuclear weapons, with the M-1 Fire Control System. The new wings offered six hard points that would support up to 5000 pounds (2268 KG) of ordnance in the way of bombs, rockets, additional fuel tanks, or a Mk. 7 nuclear weapon. The F-100C weighed over 2600 pounds (1179 KG) more than the air superiority-only F-100A. The Pratt & Whitney J57-P-7 engine powered the first 107 F-100Cs built, then production changed to the -21 engine. In 1961, the APG-30 Ranging Radar was replaced with the new ASC-17 unit.

Additionally, the F-100C was capable of in-flight refueling through a long probe attached under the starboard wing leading edge. The probe was originally short and straight, but pilots complained they had to look down and back to 'fly the probe' into the waiting drogue basket. This resulted in North American lengthening the probe, but still leaving it straight. This helped slightly, but the pilot still had to look down and away from the line of flight.

The story goes that one pilot had some difficulty refueling in rough weather and caused the long pipe to bend up into an 'S' shape. This brought the probe onto a line with the pilot's head. After several pilots flew the 'damaged' aircraft and mentioned that it was much easier to achieve 'contact' with the bent probe, the Air Force authorized North American to redesign the probe to reflect the new 'S' shape. This new probe was retrofitted to all F-100C/D and two-seat F-100F aircraft.

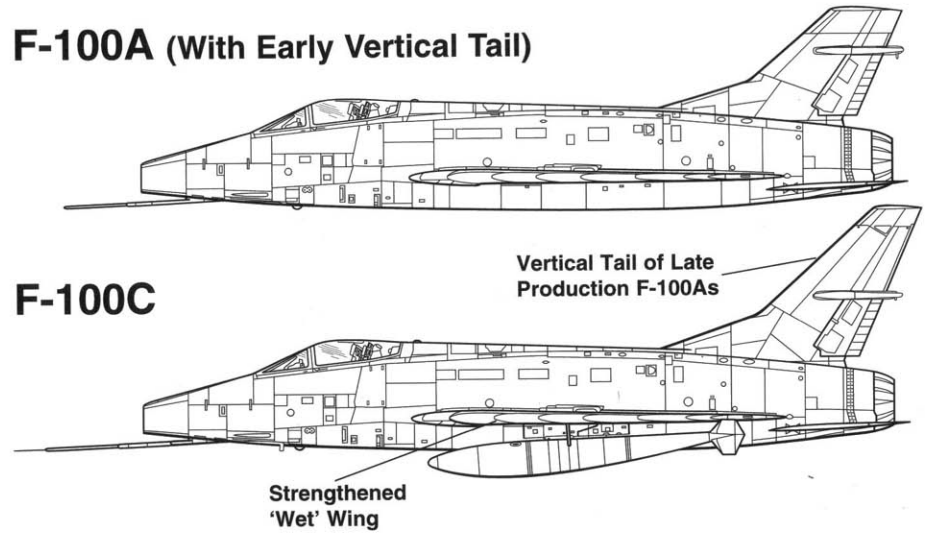
On 12 March 1954, an F-100A (52-5759) was modified to incorporate the new wing. On 27 May, the Air Force again restructured the contract to reflect a production of 564 F-100Cs, then restructured the contract again on 27 September back to 340 F-100Cs, with the last 224 being completed as F-100Ds. On 19 October 1954, the first production F-100C (53-1709) rolled off the Inglewood assembly line. North American test pilot Al White, took the F-100C into the air for the first time three months later, on 17 January 1955. The three month delay between roll-out and first flight was caused by the fatal crash of the F-100A that took the life of George Welch. This crash and several others, caused the USAF to ground the entire F-100 fleet, including the brand new C model.

The F-100C had a wingspan of 38 feet 9.375 inches (11.8 M), a wing area of 385 square feet (36 $M^2$), and a height of 15 feet 6 inches (4.7 M). Its overall length was 53 feet 11 inches (16.4 M), which included a fuselage length of 47 feet 1.25 inches (14.4 M) long. The aircraft weighed 19,270 pounds (8741 KG) empty and 36,549 pounds (16,579 KG) at maximum take-off load. Its combat weight – the aircraft's weight over the target – was 28,700 pounds (13,018 KG).

The powerplant consisted of one 14,800 pound thrust Pratt & Whitney J57-P-7 afterburning turbojet engine on the first 107 aircraft. A 16,000 pound thrust J57-P-21 engine powered subsequent F-100Cs. Seven fuselage and two wing tanks provided a combined 1152 gallon (4361 L) internal fuel capacity. This was supplemented by up to 1300 gallons (4921 L) of fuel on wing-mounted external tanks, which could be jettisoned in flight.

The F-100C had a maximum speed of 925 MPH (1489 KMH) at 35,000 feet (10,668 M), compared to the F-100A's 852 MPH (1371 KMH) top speed. The newer Super Sabre variant had a service ceiling of 38,700 feet (11,796 M), a maximum range of 1954 miles (3145 KM), and a combat radius of 572 miles (921 KM).

**The second F-100C (53-1710) takes off from Los Angeles International Airport in 1955. North American Aviation's Inglewood plant was located immediately next to the airport. The first F-100C (53-1709) was rolled out of the factory on 19 October 1954 and first flew on 17 January 1955. (NAA)**



**The F-100C featured a strengthened wing with six hard points capable of carrying up to 5000 pounds (2268 KG) of ordnance, including a Mk. 7 nuclear weapon. Conventional weapons are carried on this test, including 500 pound (227 KG) bombs on the outboard and inboard wing pylons and 1000 pound (454 KG) bombs on the center wing pylons. This F-100C is equipped with the early, straight in-flight refueling probe. (USAFM)**

**An F-100C (54-1744) carries a nuclear weapon 'shape' (inert training weapon) under the port wing at Edwards AFB in January of 1956. Dark stripes painted on the 'shape' aid in tracking its performance after its release from the aircraft. This Super Sabre variant had an MA-2 Low Altitude Bombing System (LABS) computer for 'toss-bombing' a nuclear weapon and making a rapid escape from the blast. (USAFM)**

The first F-100C aircraft were delivered to the 322nd Fighter Day Group (FDG) at Foster AFB, Texas in July of 1955. While this Super Sabre variant entered service, it continued to set records. Colonel Horace Hanes, Director of the Flight Test Division at Edwards AFB Test Center, set another F-100 official World Speed Record over the Mojave Desert speed course on 20 August 1955. He covered the three KM (1.9 mile) course at 822.135 MPH (1323.1 KMH). On 13 May 1957, three F-100Cs set another record, when they flew non-stop (with several aerial refuelings) from London to Los Angeles – a flight of 6710 miles (10,798 KM) – in 14 hours 4 minutes.

The last of 476 production F-100Cs came off North American's Columbus, Ohio assembly line in April of 1956, following a production run of 451 aircraft built at Inglewood and 25 assembled at Columbus. The first Guard units received the F-100C beginning in 1960, when both the District of Columbia and New York ANGs converted to F-100Cs. The US transferred 92 F-100Cs to Turkey in 1972 and they remained in serviced until the early 1980s.

**This F-100C (54-1775) was assigned to the commander of the 322nd FDG at Foster AFB, Texas in early September of 1956. It has red and white nose bands for the 450th FDS, while the tail bands are blue with white stars and 13 red and white tail stripes. Command stripes around the fuselage are (from front) red, yellow, blue, and green. (M. Bacon via Marty Isham)**

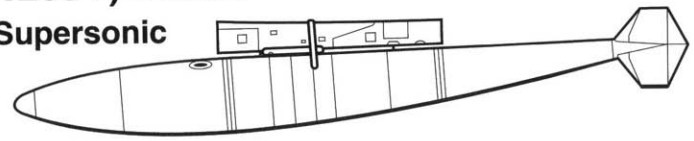
An F-100C (54-1768) of the 334th Fighter Bomber Squadron (FBS), 4th Fighter Bomber Wing (FBW) is displayed at Andrews AFB, Maryland on 18 May 1958. The tail band is in the Squadron's blue color. The rest of the Wing received its first F-100Cs in December of 1957, immediately after returning from a 'short' Temporary Duty (TDY) deployment to Korea of seven years! Dual red bands on the aft fuselage locate the J57 engine's turbine blades. (Dave Lucabaugh)

Col Tim O'Keefe was the CO of the 4th TFW at Seymour Johnson AFB, North Carolina when he flew this F-100C (54-1814). The tail band is white with red, blue, green, and yellow trim representing the Wing's four squadrons: the 333rd, 334th, 335th, and 336th. The 4th TFW insignia is painted on the white band. This Super Sabre was deployed to Langley AFB, Virginia in May of 1959. (Merle Olmsted)

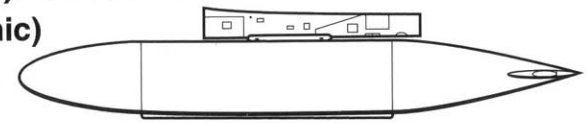
Three F-100Cs of the 333rd Tactical Fighter Squadron (TFS, formerly FBS) 'Lancers' begin an attack run at the 1958 Tactical Air Command (TAC) Gunnery Meet at Nellis AFB. This Squadron of the 4th Tactical Fighter Wing (TFW, formerly FBW) represented the 9th Air Force Firepower Team. These aircraft have LAU-3A rocket pods and 750 pound (340 KG) M117 bombs under the wings. Red nose and tail bands and wingtips appear on the 333rd's aircraft. (David Menard Collection)

## F-100 External Fuel Tanks

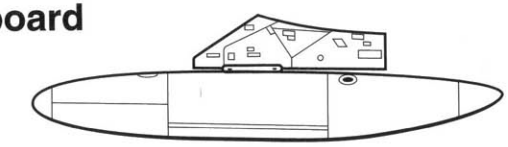
### 335 Gallon (1268 L) Center Wing Tank (Supersonic Capable)



### 450 Gallon (1703 L) Center Wing Tank (Subsonic)



### 275 Gallon (1041 L) Inboard Wing Tank (Subsonic)

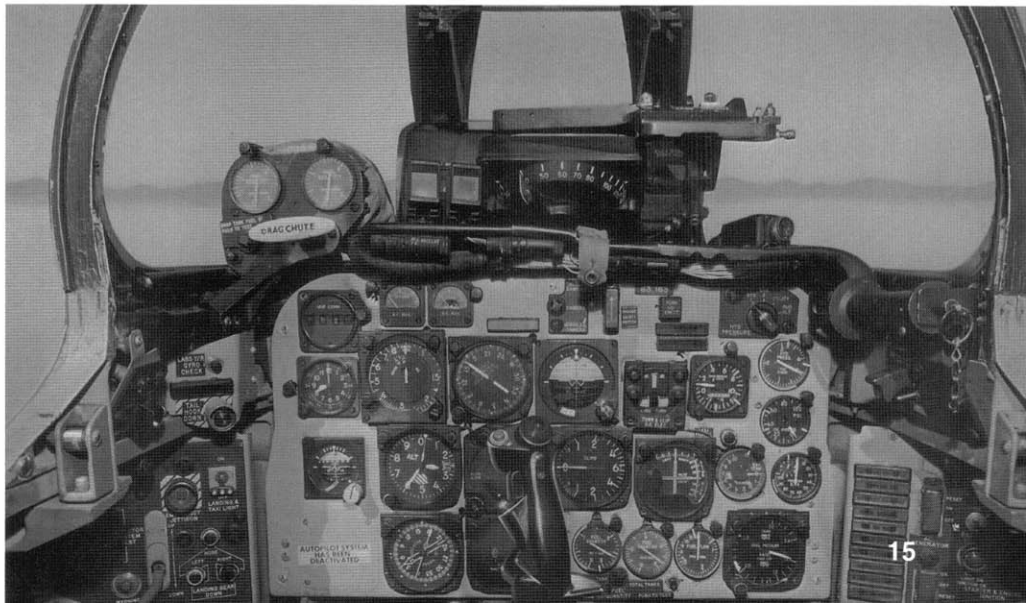


An F-100C (54-1878) assigned to the 45th FDS sits on the ramp at Sidi Slimane AB, French Morocco in March of 1956. Insignia Red wing and tail markings were painted on aircraft employed on HIGH FLIGHT operations that sent F-100s and other aircraft to bases in Europe and North Africa. The 45th FDS at Sidi Slimane was the first Super Sabre unit in the US Air Forces in Europe (USAFE). (USAF)

A 53rd TFS F-100C (54-2007) flies a training mission from Landstuhl AB in 1957. The long 335 gallon (1268 L) underwing drop tanks are designed to operate at supersonic speeds. This was the most common type of underwing tank used by Super Sabres. The Squadron's 'boxing tiger' insignia is painted under the canopy. (USAF)

A 'clean' (no underwing stores) F-100C (54-1986) sits ZULU alert on the ramp at Landstuhl AB, West Germany in February of 1958. The Super Sabre is assigned to the 53rd TFS, 36th TFW and has yellow nose and tail markings with black trim. Although the F-100C had complete fighter-bomber capabilities, the aircraft often stood ZULU alert as a point defense interceptor against the Soviet MiG fighter threat. (Curt Burns)

The gun sight is mounted above the F-100C instrumentpanel, with two drop tank quantity gauges and the drag chute handle located immediately to the sight's left. This panel lacks the autopilot gauge normally mounted on the panel's lower left corner. The landing gear lever to port and the fire warning panel to starboard flank the instrument panel. Super Sabre cockpits were Cockpit Gray (FS36231), with Instrument Black (FS37038) panels. (USAF)



Undoubtedly the most colorful F-100C was the aircraft assigned to Col George 'Ravin' Laven, Jr. when he commanded the 479th TFW. His Super Sabre (54-2076) is displayed at the George AFB Armed Forces Day Open House in May of 1958. The squadrons' colors are (from front): red, yellow, blue, orange, and green. These are painted on the pitot boom, nose, fuselage, tail, wingtips, tank tips, and speed brake. (Budd Butcher)

An F-100C (54-1960) from the 127th TFS, 184th Tactical Fighter Group (TFG), Kansas Air National Guard sits on the ramp at McConnell AFB, Kansas in 1961. The 127th converted from F-86L Sabres to F-100Cs in April of 1961. All Squadron markings are red with white trim. The old buzz code FW-960 barely shows through the Silver lacquer paint. (John Anderson)

An F-100C (54-1951) from the 4758th Defense Systems Evaluation Squadron (DSES) flies over New Mexico in the mid-1960s. It is painted in an overall Silver paint scheme to retard the effects of corrosion; however, the titanium aft fuselage section remains unpainted. The 4758th DSES – which moved from Biggs AFB, Texas to Kirtland AFB, New Mexico in 1966 – challenged air defense crews by towing airborne targets at high speed. (USAF)

Four 121st TFS F-100Cs pass over the ramp at Andrews AFB, Maryland in the summer of 1960. Some remaining F-86H Sabres are parked with T-33As. The District of Columbia ANG converted from F-86Hs to F-100Cs in mid-1960. Tail bands are red with blue trim and white stars. (DCANG)

An F-100C (53-1737) from the 188th TFS, New Mexico ANG rests at Kirtland AFB in September of 1967. Silver lacquer paint was applied to all surfaces, except the titanium aft fuselage panels, during Operation LOOK-ALIKE in the early 1960s. The 0 prefix to the tail number indicated an aircraft at least ten years old. This F-100C was retrofitted with the later, curved in-flight refueling probe. (Stephen Miller)

The National Aeronautics and Space Administration (NASA) assigned this F-100C (NASA 703) to its flight at Naval Air Station (NAS) Moffett Field, California in October of 1966. This aircraft was fitted with an F-100D vertical tail, which is white with light blue and dark blue stripes. The open door aft of the canopy allowed the ram air turbine to generate emergency electrical power for the aircraft. (Bob Burgess)

A camouflaged F-100C (XA/54-1060) of the 119th TFS, 177th TFG, New Jersey ANG is on the ramp at Myrtle Beach AFB, South Carolina in 1968. This Squadron was activated during the 1968 PUEBLO Crisis and deployed from McGuire AFB, New Jersey to Myrtle Beach. The 119th TFS converted from F-86Hs to F-100Cs in 1963. (Via Joe Bruch)

Two F-100Cs (3-749 in front and 3-060) of the Turkish Air Force fly over Turkey during the 1970s. Both Super Sabres are camouflaged in the US Southeast Asia scheme of Dark Green (FS34079), Medium Green (FS34102), and Tan (FS30219) over Light Gray (FS36622) undersurfaces. Turkey adopted a red-white-red roundel in 1972, which replaced the earlier red and white square national insignia. (Soner Capoglu)

**Four Thunderbird F-100Cs fly in formation and stream smoke during a 1958 air show. Smoke oil was piped from a tank in the fuselage to just above the engine nozzle, where the exhaust heated the oil. The near aircraft (55-2728) is piloted by Capt Sam Johnson and is the Slot (No. 4) aircraft. Flying in the jet exhaust of the Lead (No. 1) aircraft caused soot to build up on the tail. (USAF)**

**Capt Jerry Larson flew the Slot position for the USAF Thunderbirds in this F-100C (55-2723) during the 1961 and 1962 seasons. The Super Sabre is parked at Andrews AFB for a display in May of 1961. The Thunderbirds transitioned from Republic F-84F Thunderstreaks to F-100Cs in early 1956. This polished natural metal aircraft has markings in Insignia Red (FS11136), Insignia White (FS17875), and Insignia Blue (FS15044). (Dave Lucabaugh)**

# USAF Aerobatic Teams and the F-100C

For many years, most US Air Force units had some type of aerobatic team. Some teams were simple flights that just performed at air shows and open house celebrations for the local populace, while others were touring flights of aircraft that went all over the nation or continent putting on air shows for hundreds of thousands of people every year. That all ended in 1954, when the US Air Force designated the Thunderbirds as the 'official' Air Force aerobatic team.

What do you do when the Thunderbirds cannot come? If you're within the US, you can petition to have the US Navy Blue Angels put on a show. During the mid-1950s, neither the Thunderbirds nor the Blue Angels could perform outside the United States. Thus, the USAF semi-officially put the stamp of approval on an aerobatic team to perform in Europe – the Skyblazers. The 'Blazers were actually performing long before the Thunderbirds, going back to a team within the 36th Fighter-Bomber Group (FBG) at Furstenfeldbruck Air Base (AB), West Germany. This unit performed a show with Lockheed F-80C Shooting Stars beginning in 1949.

Both the Thunderbirds and the Skyblazers transitioned to newer aircraft as they became available. The Thunderbirds began in 1953 with Republic F-84G Thunderjets, then switched to the F-84F Thunderstreak in 1955. The Thunderbirds transitioned into the F-100C beginning in 1956, flying their first show in the supersonic fighter on Armed Forces Day, 19 May 1956. The highlight of those early shows was always when the Solo pilot would slip away from the crowd, then return at tree top level and supersonic speed. This impressive maneuver left the crowd ducking for cover when the sonic boom caught up with them. Subsequently, the Federal Aviation Administration (FAA) banned supersonic passes at air displays.

Adoption of the F-100C also resulted in the Thunderbirds moving their home base from Luke AFB, Arizona to Nellis AFB, Nevada. A 1959 Far East tour resulted in the Thunderbirds flying F-100Ds borrowed from the 18th Tactical Fighter Wing (TFW) at Kadena AB, Okinawa. These Super Sabres were painted in Thunderbirds colors for the duration of this tour. The F-100D had the in-flight refueling probe lacking in the Thunderbirds' F-100Cs.

The Thunderbirds flew the F-100C until 1964, when the team attempted to transition to the Republic F-105B Thunderchief. A fatal crash and subsequent grounding of all F-105s because of a structural failure left the Thunderbirds without an aircraft. In May of 1964, the Thunderbirds transitioned back into the Super Sabre, this time in the F-100D. The F-100D's capacity for in-flight refueling meant that the Thunderbirds could now perform anywhere on earth. The Thunderbirds flew the F-100D until transitioning into the double-sonic McDonnell Douglas F-4E Phantom II for the 1969 season.

The Skyblazers were flying F-86F Sabres when they were attached to the 48th Fighter-Bomber Wing (FBW) at Chaumont AB, France. When the 36th TFW (formerly 36th FBG) became the first United States Air Forces in Europe (USAFE) unit to transition into the F-100C in early 1956, USAFE transferred control of the Skyblazers team back to the 36th at Bitburg AB, West Germany. The Skyblazers toured throughout Europe flying the F-100C between 1956 and 1961, when the 36th transitioned into the F-105D. The Skyblazers team was then disbanded and their F-100Cs were assigned to other USAF units in Europe.

An access ladder hangs from the canopy sill of Capt Bob Moore's F-100C at Andrews AFB in May of 1962. Moore – a Korean War ace with five victories – was the Thunderbirds' Solo pilot in the 1962 show season. The flag panel under the windshield displays the flags of every nation in which the Thunderbirds have performed. Moore's helmet rests atop the windshield rail. (Dave Lucabaugh)

When the 36th TFW converted to F-100Cs in 1956, the Skyblazers aerobatic team was transferred from the 48th TFW back to the 36th and converted from F-86Fs to Super Sabres. This aircraft (54-2010) has the initial Skyblazers paint scheme, which consists of a tri-color (red, white, and blue) lightning bolt scheme applied to the nose, tail, and wings. (Gary Sparks)

Capt Wilbur Creech taxies back his F-100C (54-2009) to its parking spot at Bitburg AB, Germany in 1957. This F-100C wears the Skyblazer team commander's paint scheme, which has a blue vertical tail with white stars, and 13 red and white bars on the trailing edge. The Skyblazers insignia is painted under the cockpit. Creech later became a four-star General and Commander-in-Chief of Tactical Air Command in the early 1980s. (Via Marty Isham)

Four Skyblazers F-100Cs fly in formation during an air show in 1957. Although not authorized by the US Air Force as 'official,' the 'Blazers flew most of the air shows performed in Europe as the Thunderbirds could not easily make the Trans-Atlantic crossing. The dirty tail of 54-1980 indicates the Slot pilot's aircraft. The USAFE insignia is painted on the starboard fuselage side. (Via Marty Isham)

# F-100D Super Sabre (NA-223)

The F-100D was the culmination of a study in May of 1954 to incorporate space into the F-100C's fuselage for the Minneapolis-Honeywell MB-3 supersonic autopilot unit. This aircraft was also to be equipped with the new AJB-1B Low Altitude Bombing System (LABS) radar and MA-3 Fire Control System. The F-100D was the first true Super Sabre fighter-bomber variant.

The biggest change revolved around the many flight problems that were inherent with all previous F-100 variants. Both the F-100A and the F-100C were considered hot landing aircraft as they did not have landing flaps. Pilots stopped the aircraft using both the braking parachute and the wheel brakes. North American engineers redesigned the entire wing to incorporate a landing flap system, which reduced the landing speed and made the aircraft more controllable at critical landing speeds. The addition of wing flaps also increased the wing area from 385 square feet (36 $M^2$) on the F-100A/C to 400 square feet (37.2 $M^2$) on the F-100D.

This new wing was also further strengthened and the F-100D was capable of a maximum ordnance load of 7040 pounds (3193 KG). The ordnance itself was also upgraded and the F-100D could carry and fire the Philco GAR-8 (later AIM-9) Sidewinder and the Hughes GAR-1B (AIM-4) Falcon infra-red seeking Air-to-Air Missiles (AAMs). The GAM-83 (AGM-12) Bullpup Air-to-Surface Missile (ASM) was added from 1959. The F-100D was the first variant to have a centerline hard point for carrying 'special stores,' i.e. nuclear weapons. Additionally, the vertical tail assembly was increased in both height and area.

The F-100D had a wingspan of 38 feet 9.375 inches (11.8 M) – the same as for the earlier F-100A and F-100C. Its overall length increased from the F-100A/C's 53 feet 11 inches (16.4 M) to 54 feet 2 inches (16.5 M), with a fuselage length remaining at 47 feet 1.25 inches (14.4 M). The three inch (7.6 CM) additional overall length was due to the eight inch (20.3 CM) taller vertical tail, which increased the F-100D's height from the F-100C's 15 feet 6 inches (4.7 M) to 16 feet 2 inches (4.9 M). The F-100D had an empty weight of 20,638 pounds (9361 KG) and a maximum take-off weight of 37,124 pounds (16,840 KG). The combat weight was 30,061 pounds (13,636 KG). Comparable F-100C figures are 19,270 pounds (8741 KG), 36,549 pounds (16,579 KG), and 28,700 pounds (13,018 KG), respectively.

It was powered by one 16,000 pound thrust Pratt & Whitney J57-P-21 afterburning turbojet engine – the same engine that powered late production F-100Cs. Internal fuel capacity increased from 1152 gallons (4361 L) to 1189 gallons (4501 L) of JP-4 in seven fuselage and two wing tanks. This was supplemented by up to 900 gallons (3407 L) of external fuel in drop tanks mounted under the wings.

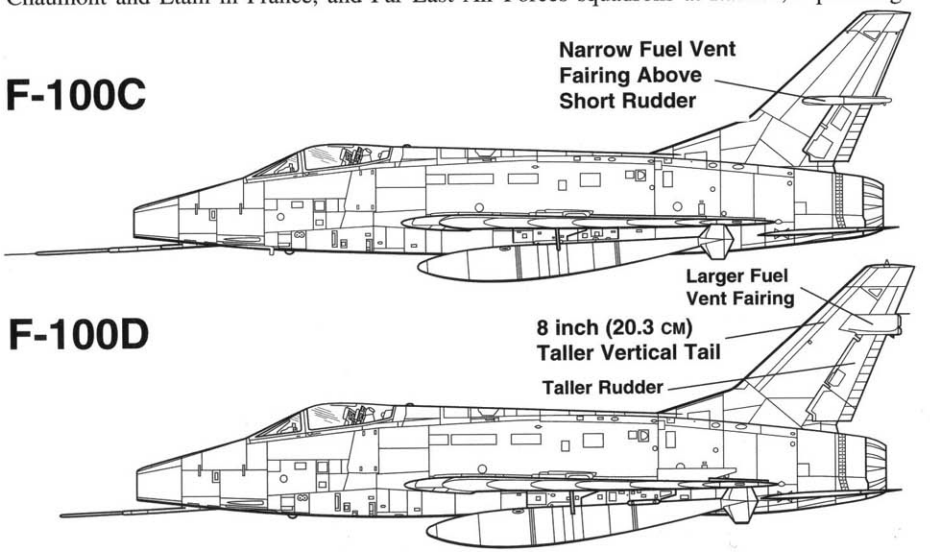
The F-100D's maximum speed was 910 MPH (1464 KMH) at 35,000 feet (10,668 M) and its service ceiling was 36,100 feet (11,003 M). This compares to the F-100C's top speed of 925 MPH (1489 KMH) at the same height and a service ceiling of 38,700 feet (11,796 M). The F-100D's maximum range was 1995 miles (3211 KM) and its combat radius was 534 miles (859 KM). Comparable F-100C figures were 1954 miles (3145 KM) and 572 miles (921 KM), respectively.

Four 20MM Pontiac M39 cannon were mounted on the lower fuselage. Each weapon was supplied with 200 rounds of ammunition. A maximum of 7040 pounds (3193 KG) of ordnance could be carried on seven pylons: three on each wing and one on the centerline. The centerline station – used to carry nuclear weapons or practice bomb dispensers – was fitted from the 184th F-100D. Weapons included bombs, rocket pods, AAMs, ASMs, and tactical nuclear devices.

On 27 September 1954, the F-100 contract was amended to reflect that the last 224 aircraft on the F-100C production run were to be completed as F-100Ds. F-100D production began on 7 July 1955 and its first flight occurred on 24 January 1956, when North American test pilot Dan Darnell took the first aircraft (54-2121) into the air.

Nine months after the first flight, the 405th Fighter Bomber Wing (FBW) at Langley AFB, Virginia received their first F-100Ds, replacing their aging F-84F Thunderstreaks. Overseas deliveries began in late 1956, equipping US Air Forces in Europe (USAFE) squadrons at Chaumont and Etain in France, and Far East Air Forces squadrons at Itazuke, Japan. High

**A F-100C (53-1733) served as the test bed aircraft for the F-100D vertical tail assembly. This tail was eight inches (20.3 CM) taller than the F-100C's fin and had a larger fuel vent fairing above the rudder. This taller tail was never retrofitted to F-100Cs in service. The Super Sabre streams out its brake parachute while completing its landing roll. (USAFM)**



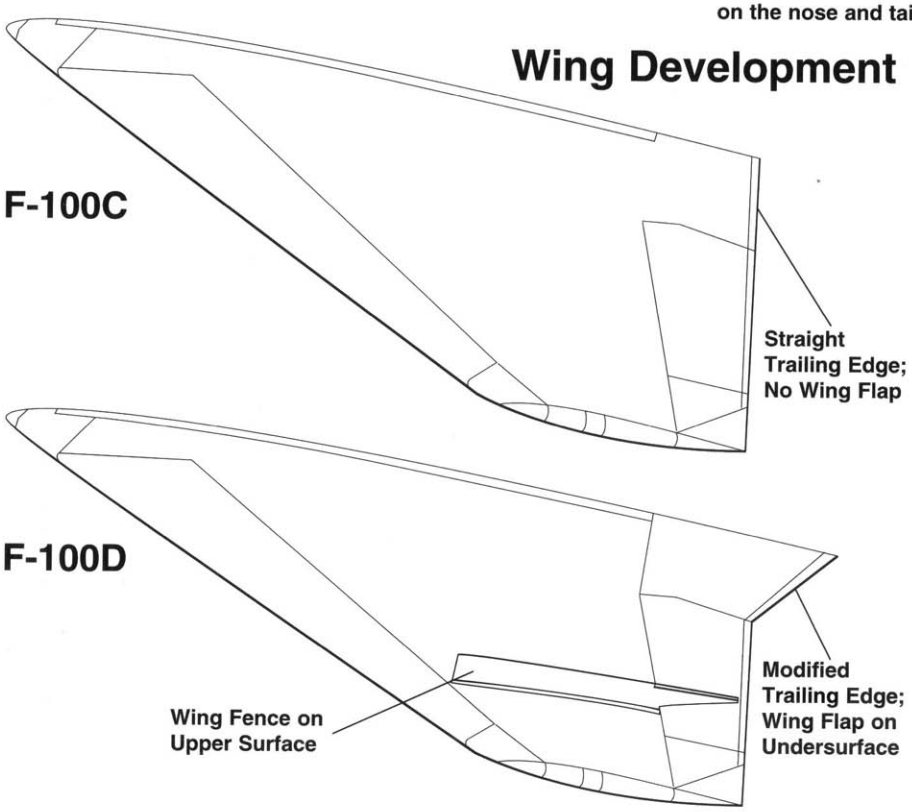
demand for F-100Ds in Vietnam meant that this variant did not enter Air National Guard (ANG) service until 1969.

The last F-100D came off the Columbus assembly line in December of 1957. North American built 1274 F-100Ds – including 940 at Inglewood and 334 at Columbus – making this the most produced Super Sabre variant. Combat in Vietnam called for several modifications including the addition of the Combat SKYSPOT, which included the Motorola SST-181 X-band transmitter for better ground-directed bombing capability. A new weapons release and firing system and the AN/APG-25/26 Radar Homing And Warning (RHAW) systems were also installed. Following a mid-1967 F-100D crash caused by total wing failure, the USAF ordered all F-100Ds and two-seat F-100Fs to be structurally rebuilt by strengthening the fuselage sides and wing undersurfaces.

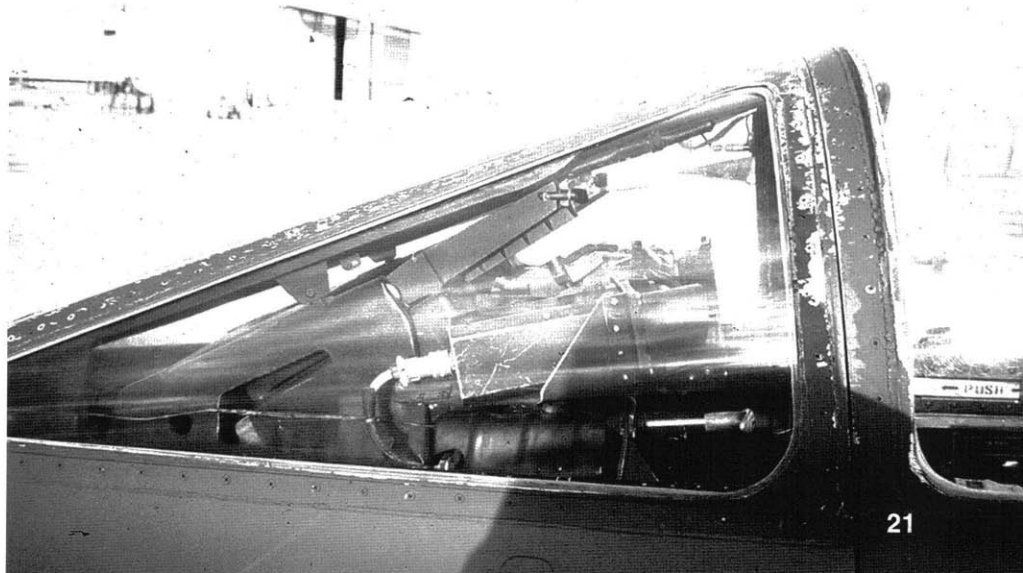
F-100Ds were released to ANG squadrons from 1969, as they were phased out of active duty USAF units. The last two regular Air Force Super Sabre units – the 27th TFW at Cannon AFB, New Mexico and the 48th TFW at RAF Lakenheath, England – relinquished their F-100Ds in 1972. Eighteen ANG units flew the F-100D until the last aircraft were retired by the 181st Tactical Fighter Group, Indiana ANG in November of 1979.

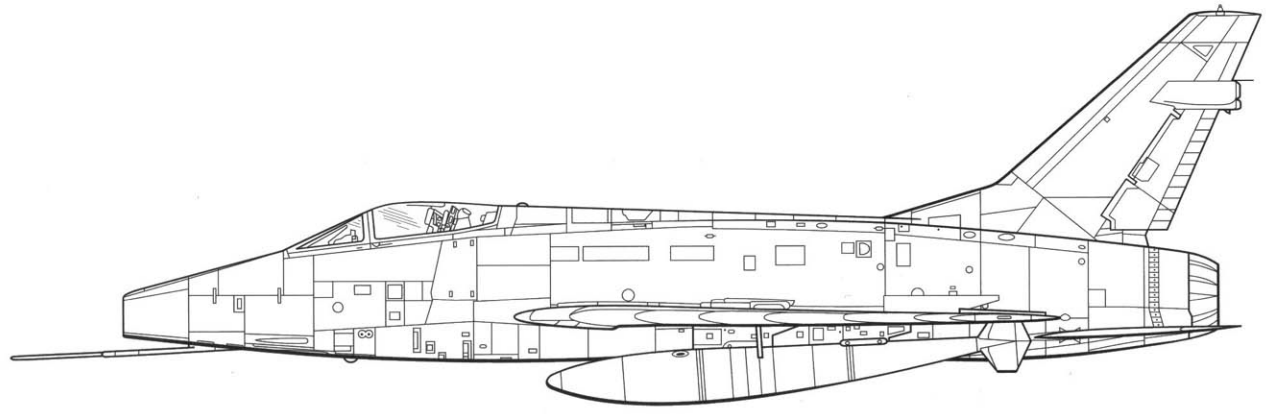
**Several F-100Ds – led by 55-3749 – of the 4520th Combat Crew Training Wing (CCTW) line the ramp at Nellis AFB during the 1959 TAC Gunnery Meet. All aircraft carry live ordnance under the wings, including 500 pound (227 KG) bombs on the inboard wing pylons. The Wing's markings consist of black and yellow checkerboard bands on the nose and tail. The Nellis-based 4520th CCTW was responsible for training F-100 pilots. (Via Marty Isham)**

## Wing Development


F-100C
Straight Trailing Edge; No Wing Flap
F-100D
Wing Fence on Upper Surface
Modified Trailing Edge; Wing Flap on Undersurface

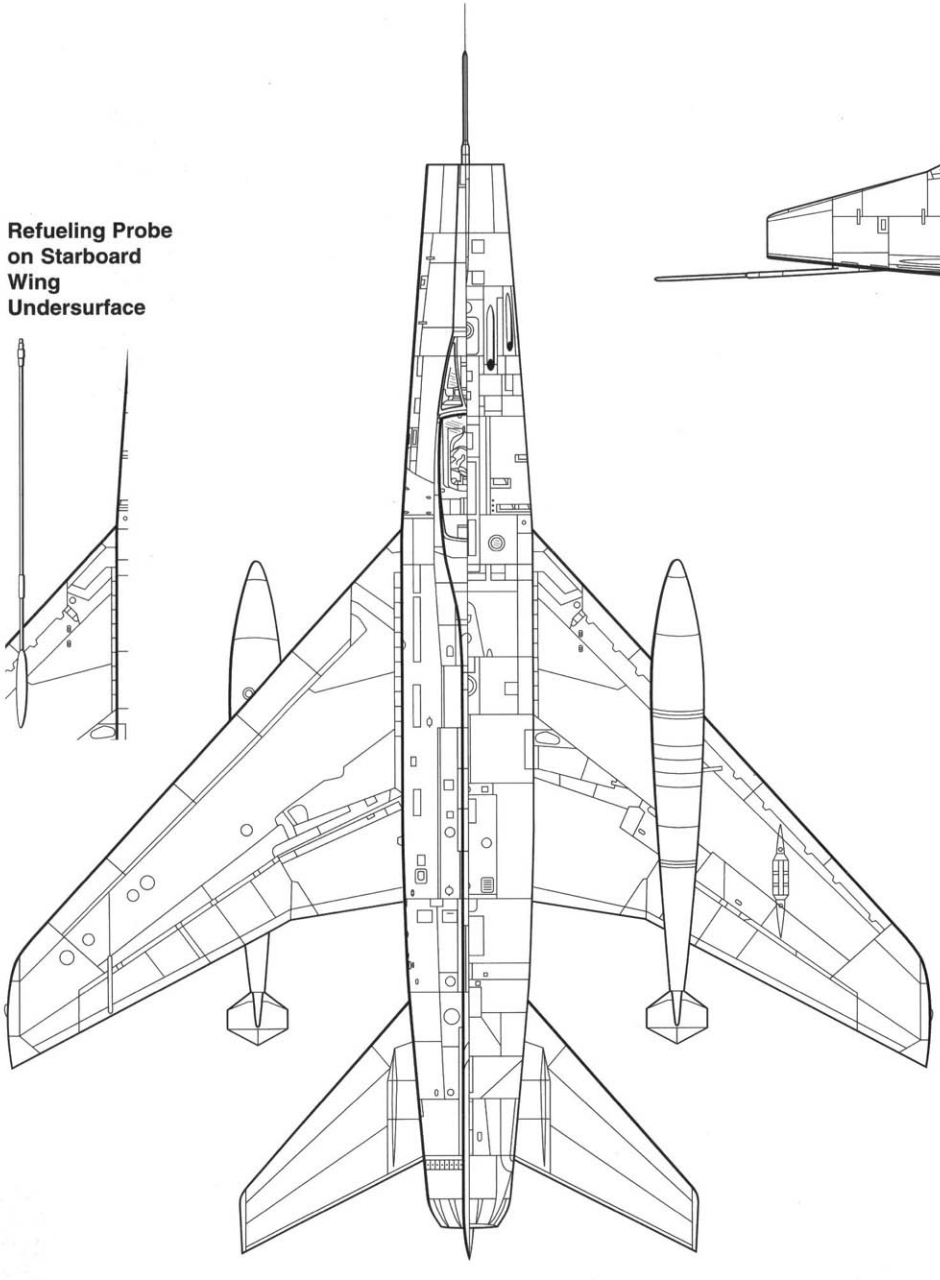
**The F-100D and other Super Sabres had a three-piece windshield. Both quarterlight panels were curved, while the center panel was flat. The A-4 gun sight is mounted atop the instrument shroud under the center panel. The windshield is defrosted by heated air tapped from the J57 engine. (Hugh Muir)**





Refueling Probe on Starboard Wing Undersurface

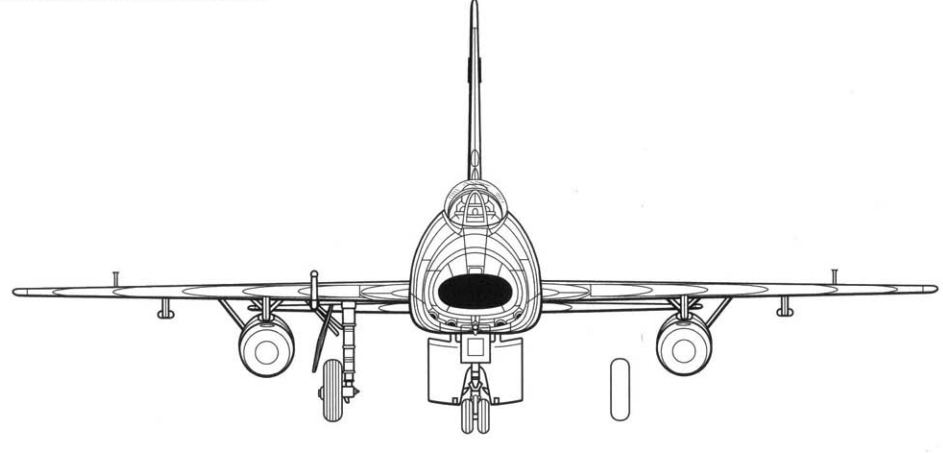




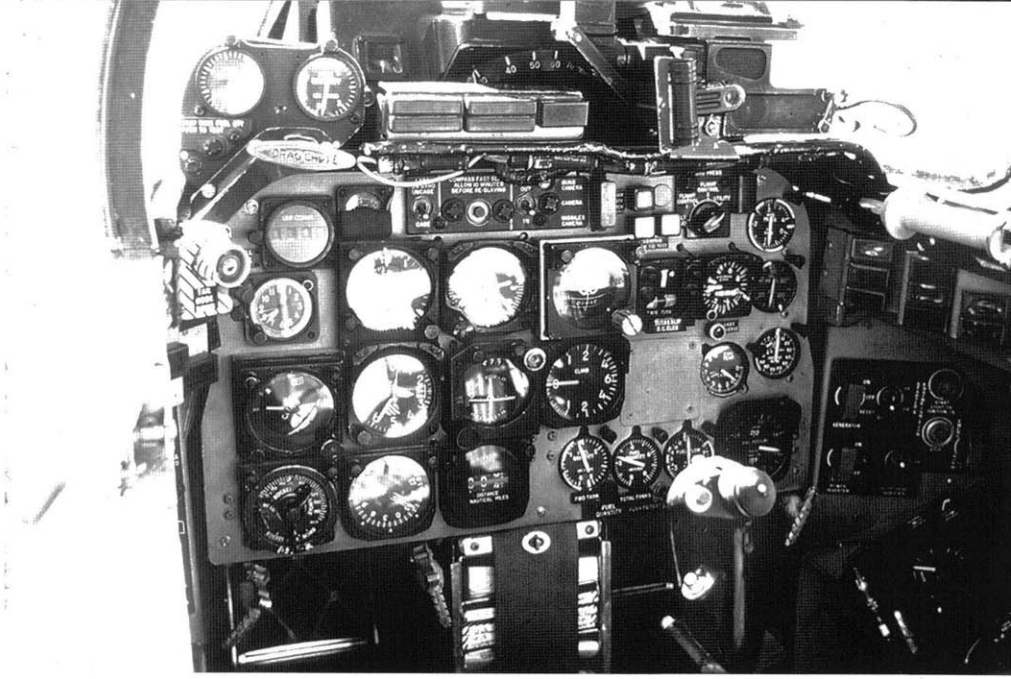
## North American F-100D Super Sabre Specifications

**Wingspan:**.....38 feet 9.375 inches (11.8 M)
**Length:**.....54 feet 2 inches (16.5 M)
**Height:**.....16 feet 2 inches (4.9 M)
**Wing Area:**.....400 square feet (37.2 M 2)
**Powerplant:**.....One 16,000 pound thrust Pratt & Whitney J57-P-21 afterburning turbojet engine.
**Empty Weight:**.....20,638 pounds (9361 KG)
**Maximum Weight:**...37,124 pounds (16,840 KG)
**Armament:**.....Four 20MM Pontiac M39 cannon with 200 rounds per gun in lower fuselage; 7040 pounds (3193 KG) of ordnance on one centerline and six wing pylons, including one Mk. 7 nuclear weapon or up to four AIM-9 Sidewinder air-to-air missiles.

**Performance:**
**Maximum Speed:**.910 MPH (1464 KMH) at 35,000 feet (10,668 M)
**Service Ceiling:**....36,100 feet (11,003 M)
**Combat Radius:**....534 miles (859 KM)
**Ferry Range:**.....1995 miles (3211 KM)
**Crew:**.....One

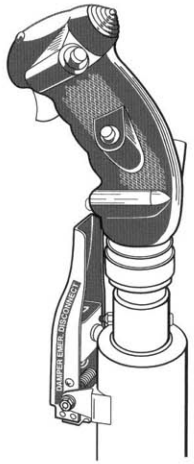


The F-100's throttle is mounted atop the port cockpit console. The pilot moved the throttle forward to increase thrust and aft to decrease it. Armament controls are located immediately aft of the throttle quadrant, while engine and flight controls are placed immediately ahead of this quadrant. The landing gear actuating lever protrudes from the left cockpit wall, beside the instrument panel. (Hugh Muir)

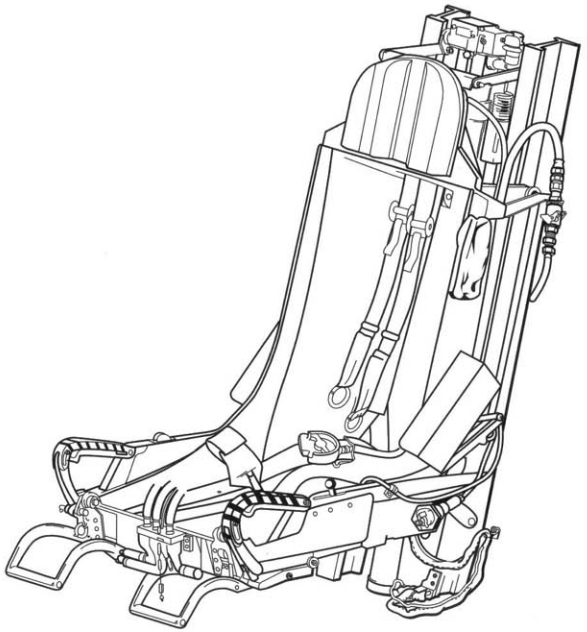


The gun sight and missile warning lights appeared atop the F-100D instrument panel. Weapons controls are mounted on the panel's upper center, with flight data and navigational instruments to port and engine and fuel instruments to starboard. Cockpit colors were primarily Cockpit Gray (FS36231) and Instrument Black (FS37038). (Hugh Muir)

## Control Stick Grip (Typical for All F-100 Variants)



## F-100D Ejection Seat

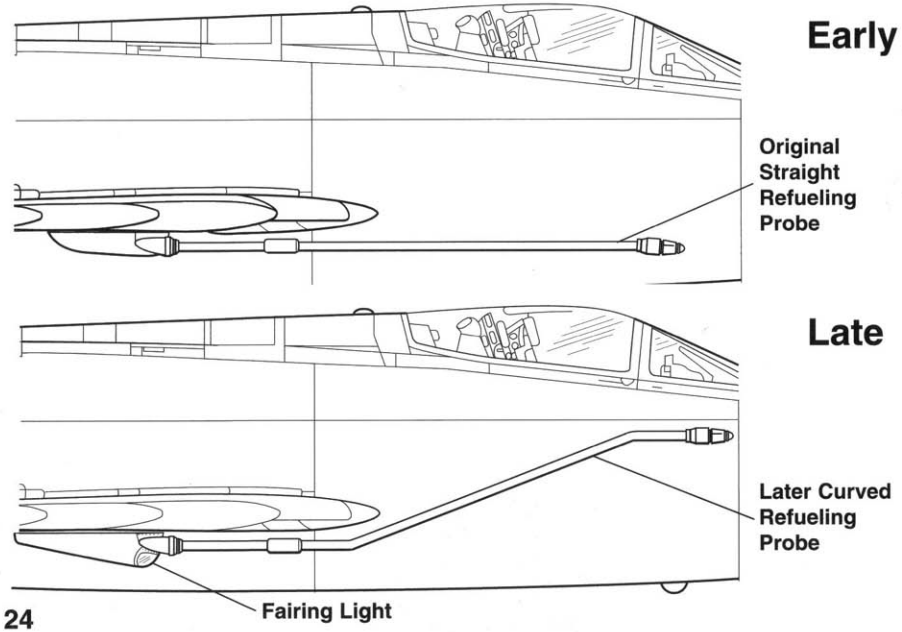


The ejection seat is installed in the cockpit of this F-100D. The single bubble canopy opened aft and was jettisoned in an emergency, including pilot ejection. Thin rubber sealing material mounted between the canopy and its rail sealed the cockpit for pressurization. The top of the left outboard 20MM cannon's ammunition bin is mounted immediately aft of the ejection seat rail. (Hugh Muir)

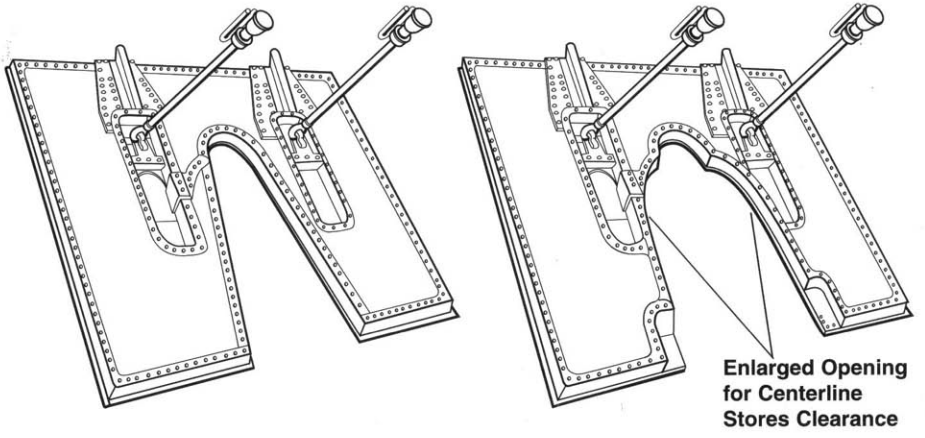
An F-100D (56-2928) from the 81st TFS/50th TFW is parked on the ramp at Wheelus AB, Libya. USAFE squadrons deployed to Wheelus once a year for a 30 day Temporary Duty (TDY) and live-fire munitions training. This Super Sabre is equipped with the original straight in-flight refueling probe on the starboard wing and the factory-built speed brake on the centerline. The 50th TFW was originally based at Toul-Rosieres AB, France before moving to Hahn AB, West Germany in December of 1959. (USAF)

This F-100D (56-3405) has the later curved in-flight refueling probe. This rectified a problem some pilot had with seeing the probe's connection to the tanker's drogue. The 'S' shaped pipe brought it nearly level with the pilot's eyes and improved his view of the connection. Additionally, this Super Sabre's ventral speed brake was modified with an enlarged cutout. This allowed external stores to be fitted on the centerline pylon. The 162nd TFS, 178th TFG, Ohio ANG flew this F-100D from Springfield-Beckley Municipal Airport. *Ohio* is painted in white script on the white trimmed red tail band.

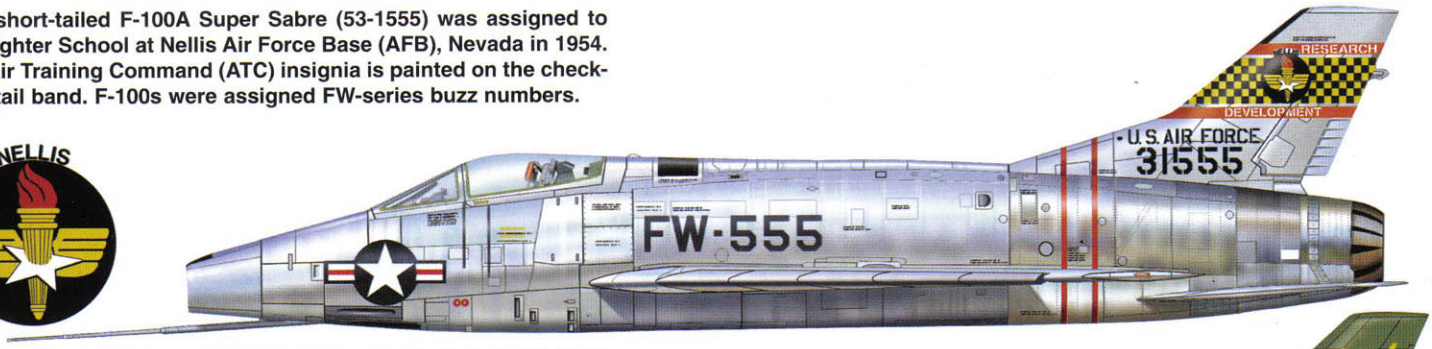
## Refueling Probe Development




## Speed Brake Development



This short-tailed F-100A Super Sabre (53-1555) was assigned to the Fighter School at Nellis Air Force Base (AFB), Nevada in 1954. The Air Training Command (ATC) insignia is painted on the checkered tail band. F-100s were assigned FW-series buzz numbers.

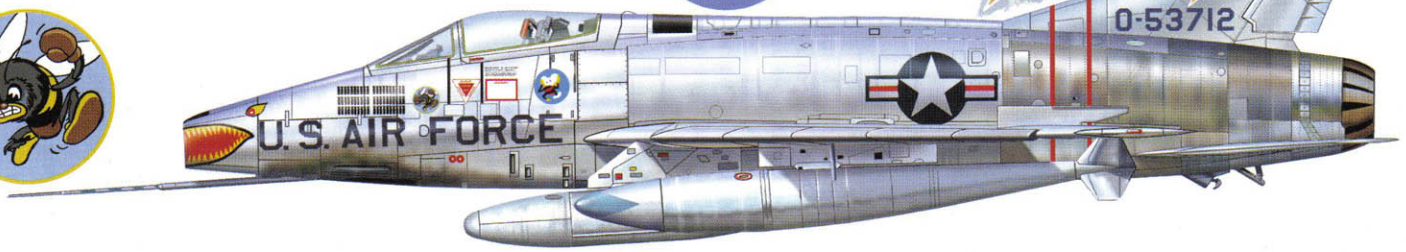



Retrofitted with an F-102 afterburner nozzle, this F-100C (53-1775) flew with the 188th TFS, 150th Tactical Fighter Group (TFG), New Mexico ANG. This unit was based at Kirtland AFB, Albuquerque, New Mexico in 1968-69. The Squadron's yellow roadrunner insignia and an Outstanding Unit Award ribbon are painted on the tail.

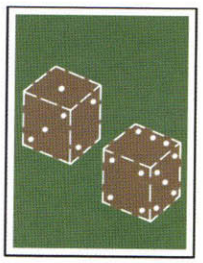
Red trim was painted on the F-100Ds – including 56-3020 – of the 353rd TFS, 354th Tactical Fighter Wing (TFW). This Wing was based at Myrtle Beach AFB, South Carolina in the late 1950s. The 354th's insignia is painted on the red tail.

This Silver lacquer painted F-100D (55-2800) was assigned to the 492nd TFS, 48th TFW at RAF Lakenheath, England in 1965. The Wing's Statue of Liberty emblem is painted on the vertical tail. The 0 preceding the tail number indicated an aircraft at least ten years old.

'Pahokee Tiger' was an F-100D (55-3712) of the 308th TFS, 31st TFW at Bien Hoa AB, South Vietnam in December of 1965. Sixty mission tallies are painted on the Super Sabre's nose, near the 'Pahokee Tiger' insignia. The Squadron emblem is painted under the canopy. The name 'Pahokee Tiger' was not painted on the aircraft.



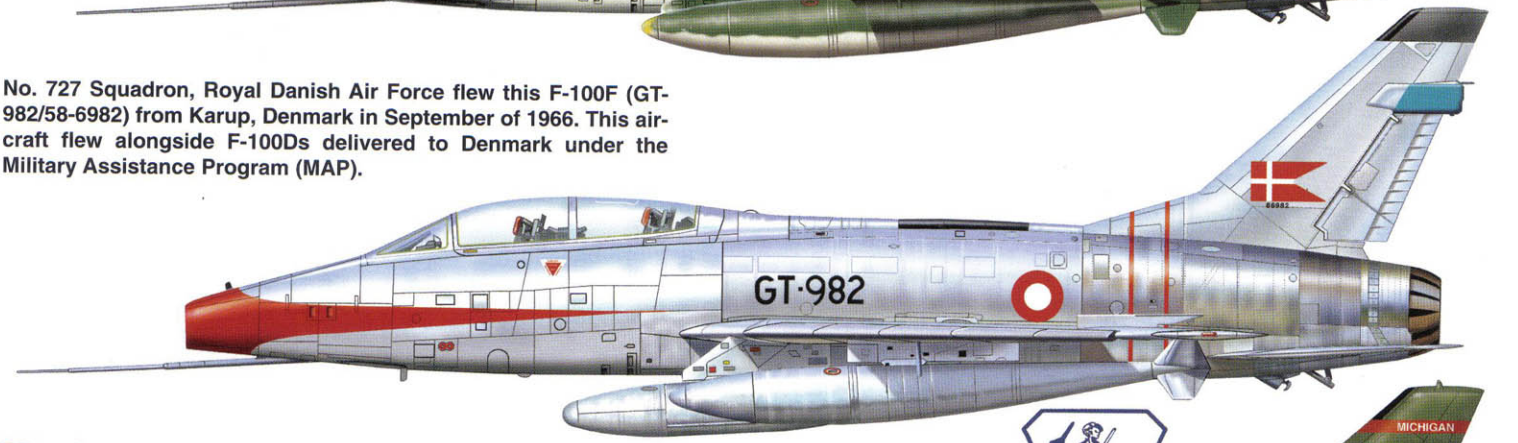
*Nashville Sound* (CB/55-2932) was an F-100D assigned to the 90th TFS, 3rd TFW at Bien Hoa AB, South Vietnam in October of 1969. A pair of dice is painted on the front nose landing gear door.



The SS tail code was assigned to the 309th TFS, 31st TFW at Tuy Hoa AB, South Vietnam. THOR'S HAMMER was an F-100D (56-2927) which flew with the Squadron in April of 1970. A AN/APG-25/26 Radar Homing And Warning (RHAW) receiver antenna is mounted under the nose intake.

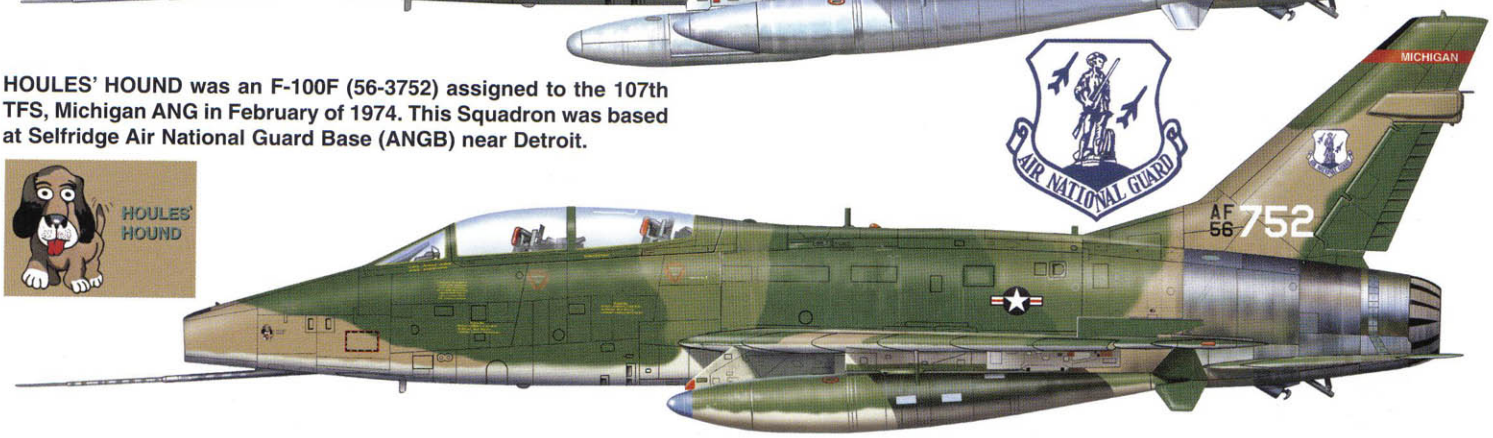
SIZZLIN Susie was an F-100D (VM/55-4222) flown by the 352nd TFS, 35th TFW at Phu Cat AB, South Vietnam in 1970. The 35th was one of four F-100 wings that operated in South Vietnam between 1965 and 1971.

No. 727 Squadron, Royal Danish Air Force flew this F-100F (GT-982/58-6982) from Karup, Denmark in September of 1966. This aircraft flew alongside F-100Ds delivered to Denmark under the Military Assistance Program (MAP).




HOULES' HOUND was an F-100F (56-3752) assigned to the 107th TFS, Michigan ANG in February of 1974. This Squadron was based at Selfridge Air National Guard Base (ANGB) near Detroit.



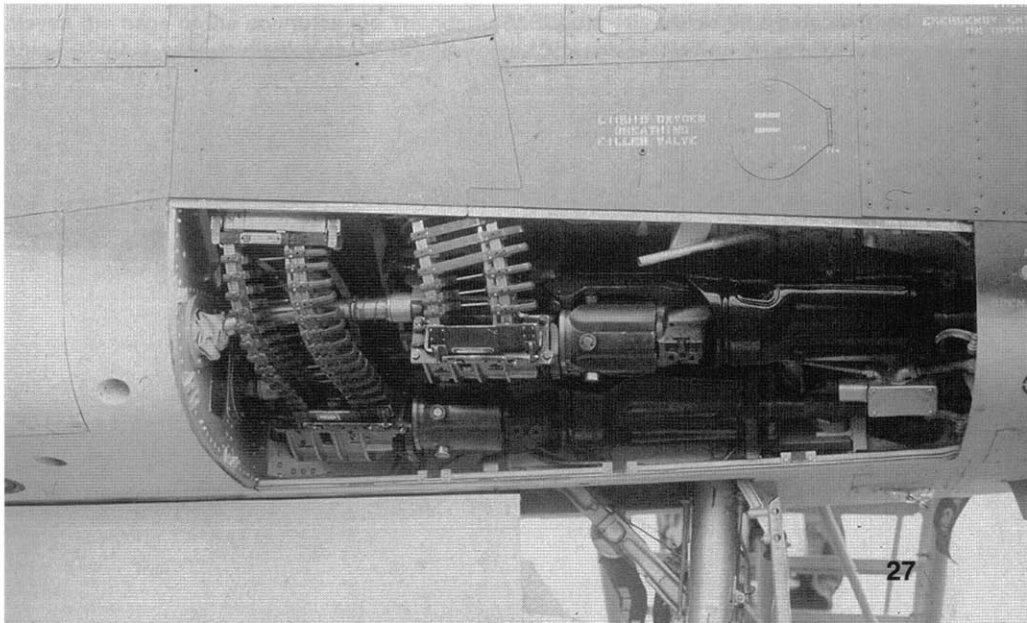



All F-100 variants – including this F-100D – had single wheel main landing gears that retracted inward. The wheel bay inside the fuselage was enclosed by one door hinged at the centerline, while two smaller doors (hidden by the drop tank) enclosed the gear strut in the wing. F-100 wheels, gear struts, bays, and door interiors were usually painted Aluminum (FS17178). A small light is enclosed in a fairing under the refueling probe base. (Hugh Muir)

The Super Sabre's nose gear included two wheels and an aft-retracting strut. A scissor line connects the upper and lower strut sections. A small door enclosed part of the nose gear as it retracted, while the main door (retracted on this aircraft) was hinged to starboard. The factory pattern speed brake is lowered while this Super Sabre is parked at a museum. (Hugh Muir)

The last three digits of the F-100's serial number were usually painted on the forward nose gear door for easy identification on the ground. A small Ultra High Frequency (UHF) radio antenna is mounted immediately forward of the nose gear door. Blast troughs for the four 20MM cannon are located along the fuselage undersurface. (Hugh Muir)

F-100Ds were armed with four 20MM Pontiac M39 cannon. Each weapon was supplied with 200 rounds, which were fed along the upper fuselage side to the breeches. The 188 pound (85 KG) M39 had a cyclic rate of fire of 1200 rounds per minute and a muzzle velocity of 3280 feet (1000 M) per second. (Hugh Muir)



A 20th TFW F-100D (56-2963) displays the weapons available to F-100 crews during a 1965 Open House at RAF Wethersfield, England. Arrayed before the Super Sabre are (from left): AIM-9 Sidewinder Air-to-Air Missile (AAM), GAR-8 Bullpup Air-to-Surface Missile (ASM), a 750 pound (340 KG) bomb, an 800 pound (363 KG) practice bomb, a special purpose (nuclear) bomb 'shape,' and a 3000 pound (1361 KG) M118 bomb. The F-100D was a true fighter-bomber and capable of firing every missile and bomb type then in the US Air Force inventory. (USAF)

The USAF equipped the F-100 to launch the Philco AIM-9 Sidewinder heat-seeking AAM. Special launch rails were mounted to the inboard weapons pylons of this F-100D (54-2144) to carry two Sidewinders. This Super Sabre flew AIM-9 suitability trials at the US Naval Ordnance Test Station at China Lake, California in October of 1957. The JFW buzz number indicated a flight test aircraft. (USAF)

An 8th TFW F-100D (55-3568) sits VICTOR alert at Osan AB, South Korea in 1959. The Mk. 7 nuclear weapon mounted under the port wing had a yield of 20 kilotons (KT). During the Cold War, squadrons of F-100s – and later F-105s – rotated from Japanese bases to Osan, where they performed nuclear strike alerts to deter communist aggression. The national insignia's white sections appear toned down for an unknown reason. (Robert F. Dorr)

The Martin/Maxon GAR-8 (later AGM-12) Bullpup ASM was also cleared for use on F-100Ds. One missile was mounted on each of the inboard wing pylons. The 1785 pound (810 KG) Bullpup was fitted with a 1000 pound (454 KG) warhead for precision strikes against surface targets. This missile was 13 feet 7.2 inches (4.1 M) long and had a range of ten nautical miles (11.5 miles/18.5 KM). (USAF)

An F-100D (56-2910) from the 4520th Combat Crew Training Wing (CCTW) departs Nellis AFB, Nevada for a live-fire mission during the 1960 William Tell Meet. This was the Tactical Air Command (TAC) air-to-surface weapons competition, which later became an air-to-air meet. The Super Sabre is armed with 750 pound M117 general purpose bombs. The Nellis-based 4520th CCTW was responsible for F-100 flight training. (USAF)

A 416th TFS F-100D (56-3151) sits in its revetment prior to a fighter-bomber mission over Vietnam early in the conflict. It is armed with 750 pound (340 KG) M117 general purpose bombs on the inboard and outboard wing pylons. Approximately 65 percent of the M117's weight consisted of explosives and this bomb was primarily a blast weapon. Two 335 gallon (1268 L) drop tanks are located on the mid-wing pylons. (Lee Holcomb)

A 416th TFS F-100D (55-2923) uses the cartridge start system at Da Nang AB, South Vietnam in 1965. Super Sabres normally employed an auxiliary power cart for engine starting, but the cartridge system was used at forward operating locations. The highly toxic smoke from the starter cartridges resulted in masks being issued to ground crews. (SSGT David Menard)

Capt Bob Beckel flew Solo with the Thunderbirds in the 1967 show season and was assigned Thunderbird Five. A spelled-out squadron identification number replaced the aircraft's serial number on the aft fuselage in 1966. The Super Sabres' natural metal surfaces were highly polished and the aircraft was painted Insignia Red (FS11136), Insignia White (FS17875), and Insignia Blue (FS15044). The flag panel under the windshield displayed the flags of the countries the Thunderbirds visited since their inception in 1953. This F-100D is now on display at the US Air Force Museum, located at Wright-Patterson AFB near Dayton, Ohio. (Jack Freeberger)

A freshly camouflaged F-100D (56-3019) assigned to the 308th TFS, 31st TFW – based at Homestead AFB, Florida – is parked at Columbus AFB, Georgia in June of 1965. Paint burned away from the titanium aft fuselage panels after some use. This Super Sabre has the original eyelid afterburner nozzle fitted to all production F-100s. (Charles Mayer)

An F-100D (LT/56-3008) from the 494th TFS, 48th TFW is parked at RAF Alconbury, England in June of 1971. The aircraft is camouflaged in the Southeast Asia (SEA) scheme adopted in 1965. Upper surfaces are Dark Green (FS34079), Medium Green (FS34102), and Tan (FS30219), while undersurfaces are Light Gray (FS36622). The USAF introduced tail codes in 1967, but this did not apply to USAFE aircraft until 1970.(Steve Altz)

Maintenance problems with the eyelid afterburner nozzle resulted in ANG units installing a flap type nozzle on their F-100Ds and Fs, including this F-100D (56-3345). The nozzle is from the J57-23 engine used on the Convair F-102 Delta Dagger. This retrofit reduced maintenance problems, but was never adopted by regular USAF units. Prior to the adoption of tail codes in 1967, USAF and the tail number were painted white on Dark or Medium Green and black on Tan, respectively. (Author)

This F-100D (55-3681) was assigned to the Armament Development and Test Center (ADTC) at Eglin AFB, Florida during September of 1979. Four Mk 20 Rockeye II Cluster Bomb Units (CBUs) are mounted under the wings. The Super Sabre has an unusual overall Gloss ADC Gray (FS16473) scheme. White bands on the tail and drop tanks have red diamonds and trim. (L.B. Sides)

# ZEL F-100 Program and MAP Deliveries

One major modification was included in a large number of F-100Ds – the Zero Length Launch (ZEL) assembly. The US Air Force wanted something for a deterrent in Europe beyond the normal F-100Ds with nuclear capabilities. It was possible that all of these Victor Alert aircraft could be put out of action within minutes by a first strike from Soviet short range tactical nuclear missiles. North American and its Rocketdyne division conceived the idea of adding a large rocket booster to a nuclear-armed F-100D and launching it from the back of a truck parked inside a hardened shelter.

The system had already been proven with many guided missile systems, including the Martin TM-61 Matador Surface-to-Surface Missile (SSM) then in service. The F-100D was fitted with a 130,000 pound thrust Rocketdyne solid-fueled booster on the aircraft's centerline. This booster propelled the aircraft, with drop tanks and nuclear weapon, into the air at 275 MPH (443 KMH) in approximately four seconds! The Super Sabre released the booster after it had burned out. The last 148 F-100Ds built were fitted with ZEL capability.

The first ZEL-equipped F-100D, piloted by North American test pilot Al Blackburn, was launched on 7 July 1957. Although tests were completely successful and many ZEL F-100Ds were put into service, the system was deemed unnecessary by the late 1950s. The last ZEL F-100D launch occurred on 26 August 1959.

F-100Ds that were not centerline pylon capable became available for the Military Assistance Plan (MAP) inventory and were offered to friendly nations that supported US interests. France became the first MAP nation to equip with the Super Sabre in May of 1958, when they received the first of 68 F-100D/F aircraft. These served until the last aircraft was retired from French service in late 1978. The first of Turkey's 87 F-100D/F aircraft arrived in October of 1958. In 1974, some Turkish F-100s engaged Greek aircraft during the dispute over Cyprus. Turkey retired its last 'Hun' in 1988. Denmark became the last NATO air force to operate the F-100 in July of 1959, when they received the first of their 48 F-100D/F aircraft. They remained in Danish service until mid-1982.

**An F-100D Zero Length Launch (ZEL) aircraft (56-2904) is mounted on a portable launch trailer at Edwards AFB, California in March of 1958. A 130,000 pound thrust Rocketdyne solid-fuel booster is mounted under the fuselage. This booster allowed the ZEL F-100D to attain flight speed in approximately four seconds. Most of the vertical stabilizer is painted International Orange (FS12197) for greater visibility. (NAA)**

**This same ZEL F-100D (56-2904) launches from Edwards AFB in 1958. It carries a Mk. 7 nuclear 'shape' under the port wing and a 275 gallon (1041 L) fuel tank under the starboard wing. The fuselage undersurface is painted Black and White for photo interpretation. All late model F-100D aircraft had the ZEL modifications; however, this system was never employed on an operational basis. (NAA)**

**A ZEL F-100D (56-2947) launches from a hardened shelter at Holloman AFB, New Mexico. The object of the ZEL tests was to provide a virtual instantaneous nuclear launch capability from 'barns' throughout Europe, to counter a quick-strike from Soviet tactical nuclear missiles. The first ZEL F-100D flight test occurred in July of 1957. (NAA)**

An F-100D (11-MK/54-2223) assigned to EC (*Escadre de Chasse*; Fighter Wing) 2/11 *'Vosges'* sits on the ramp at Jever AB, West Germany in June of 1968. This *Armée de l'Air* (French Air Force) unit was based at Toul-Rosieres, France. The French received their first F-100Ds in 1958 under the US Military Assistance Plan (MAP). A red maple leaf painted above the tail number was a 'zap' by a Canadian unit. *Armée de l'Air* F-100s were originally painted Silver with rudder striping in (from front) blue, white, and red. (Via Stephen Miller)

A French Air Force F-100D (11-MQ/54-2154) of EC 2/11 *'Vosges'* is parked at RAF Sculthorpe, England in April of 1976. French Super Sabres were painted in USAF Southeast Asia camouflage during the early 1970s. The extreme heat around the afterburner causes the rear fuselage paint to burn off. SEPECAT Jaguar strike fighters replaced the F-100s in *Armée de l'Air* service from the mid-1970s. (Lars Soldeus)

A *Kongelige Danske Flyvevaabnet* (Royal Danish Air Force) F-100D (G-266/54-2266) from 727 *Eskadrille* (Squadron) is displayed at RAF Finningly, England in September of 1966. This unit's home base was Karup, Denmark. The Silver painted aircraft has a red nose flash, blue tail flash, and squadron insignia on the vertical stabilizer. The Danish received their first MAP-supplied F-100s in July of 1959. (Jack Friell)

A 727 *Eskadrille* F-100D (G-262/54-2262) is parked on the ramp at the German Air Force Museum in October of 1979. The Danes painted their Super Sabres overall Olive Green (approximately FS34087) in the 1970s. A large yellow H on the vertical tail is a marking left from the NATO Tiger Meet competition, where squadrons having tigers in their unit insignia gather and test their skills. An F-102 afterburner nozzle has been retrofitted to this aircraft. (Udo Weisse)

An F-100D (55-3718) from No. 111 *Filo* (Squadron), *Turk Hava Kuvvetleri* (Turkish Air Force) is prepared for flight from Eskesihir AB, Turkey in July of 1971. It is camouflaged in USAF Southeast Asia color. The aircraft has the red and white square national insignia used before 1972, when it was replaced by a red-white-red roundel. Turkey received its first Super Sabres in October of 1958 and some of these saw combat in the 1974 Cyprus Crisis. (Steve Peltz)

A well-worn F-100D (G-222/54-2222) from No. 723 Squadron, Royal Danish Air Force is parked on the ramp at RAF Greenham Common, England in July of 1974. The Olive Green camouflage weathered rapidly during the harsh weather of northern Europe. A white H is painted on the vertical tail fairing, while three white bars are painted on the rudder. Fuselage codes and serial numbers on the tail are black. (Steve Peltz)

# F-100F Super Sabre (NA-243)

The F-100F was the US Air Force's first two-seat supersonic trainer and was the only such aircraft until the Northrop T-38 Talon entered USAF service in 1961. In 1955, the Air Force put out feelers to the aircraft manufacturers inquiring about a supersonic jet trainer. This aircraft would both replace and augment the Lockheed T-33A then in service. North American had offered the TF-86F transonic trainer and built two aircraft for just such a program, but the Air Force wanted a true supersonic trainer.

In November of 1955, North American made a formal proposal to build a two-seat version of the F-100. This aircraft would not only be a supersonic trainer, but would also be fully mission capable, including nuclear capabilities. The following summer, North American went ahead and modified an F-100C (54-1966) into a two-seat trainer aircraft. The conversion involved adding 2 feet 11 inches (0.9 M) into the forward fuselage to incorporate the second cockpit for the instructor pilot, who sat behind the student. The modified aircraft, designated **TF-100C**, made its first flight on 3 August 1956.

Production of the F-100F variant began in late 1956 and the first aircraft came off the assembly line that December, with Al White taking it into the air for the first time on 7 March 1957. The requirement that the new 'trainer' also be tactical mission capable meant that the F-100F retained two of the F-100D's four 20MM M39 cannon, plus the Low Altitude Bombing System (LABS) and fire control system. In 1959, North American modified 15 F-100Fs to fire the GAM-83 Bullpup Air-to-Surface Missile (ASM).

The F-100F retained the F-100D's wingspan of 38 feet 9.375 inches (11.8 M) and height of 16 feet 2 inches (4.9 M). Its overall length went from 54 feet 2 inches (16.5 M) to 57 feet 1 inch (17.4 M). The fuselage length – not including the nose pitot probe – was increased from 49 feet 4 inches (15 M) to 52 feet 3 inches (15.9 M). The F-100F had an empty weight of 21,712 pounds (9849 KG), a maximum take-off weight of 39,122 pounds (17,746 KG), and a combat weight of 31,413 pounds (14,249 KG).

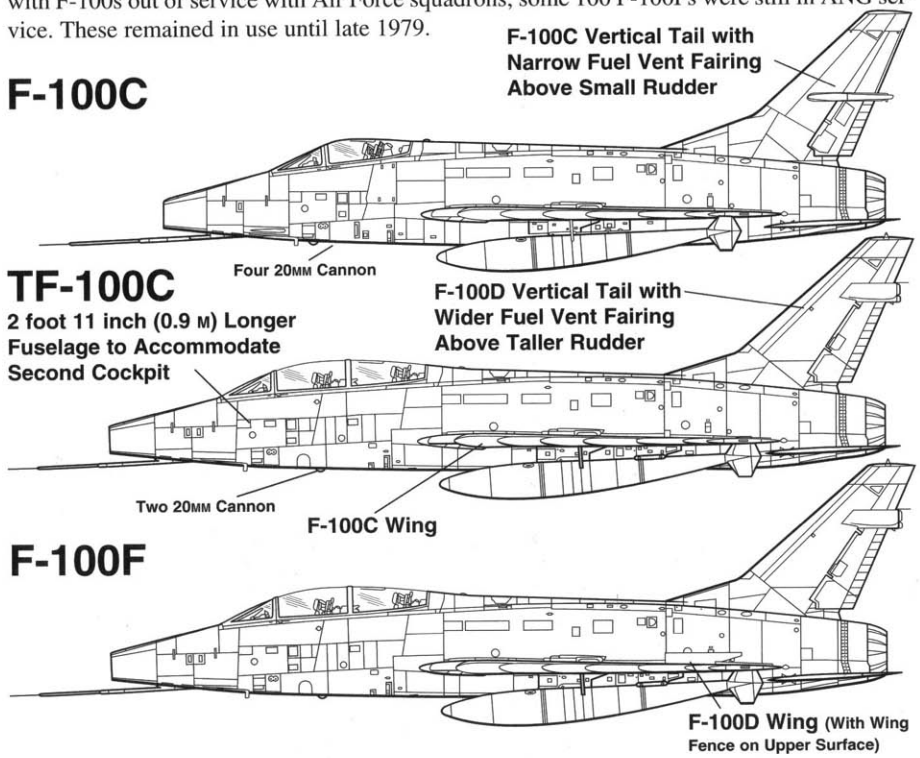
This variant was powered by one 16,000 pound thrust Pratt & Whitney J57-P-21 afterburning turbojet engine, the same powerplant employed by the late F-100Cs and all F-100Ds. Fuel capacities were the same as for the F-100D, with up to 1189 gallons (4501 L) carried in seven fuselage and two wing tanks and up to 900 gallons (3407 L) in external fuel drop tanks under the wings.

The F-100F's maximum speed at 35,000 feet (10,668 M) was 875 MPH (1408 KMH), which was 35 MPH (56 KMH) slower than the F-100D's 910 MPH (1464 KMH) maximum speed. The service ceiling of 38,500 feet (11,735 M) was 2400 feet (732 M) higher than the F-100D's 36,100 feet (11,003 M) ceiling. The F-100F's maximum range of 1661 miles (2673 KM) and combat radius of 508 miles (818 KM) were lower than the F-100D's 1995 mile (3211 KM) range and 534 mile (859 KM) radius.

The two 20MM M39 cannon in the lower fuselage were supplied with 175 rounds per weapon – 25 rounds fewer than for each of the F-100D's four cannon. Seven pylons (one centerline and six wing) held up to 5000 pounds (2268 KG) of ordnance, which was less than the F-100D's 7040 pound (3193 KG) ordnance capacity. The F-100F was capable of carrying the full range of F-100D weapons and other external stores.

The first F-100Fs were delivered to the Fighter School at Nellis AFB, Nevada in May of 1957. From May of 1958, at least two F-100Fs were assigned to all F-100C/D squadrons. North American built 339 F-100Fs, including 45 built specifically for MAP use by the three NATO air forces equipped with F-100Ds (France, Turkey, and Denmark), and the F-100A-equipped Republic of China Air Force. Air National Guard (ANG) F-100 squadrons began receiving at least one F-100F for transition and operational training in 1958. By June of 1972, with F-100s out of service with Air Force squadrons, some 100 F-100Fs were still in ANG service. These remained in use until late 1979.

**The sole TF-100C (54-1966) – converted from a standard F-100C – makes a test flight in 1956. This aircraft retained the F-100C wings that lacked landing flaps, but had the taller vertical tail of the F-100D. Nose and tail surfaces were painted Insignia Red for the test program. (USAFM)**

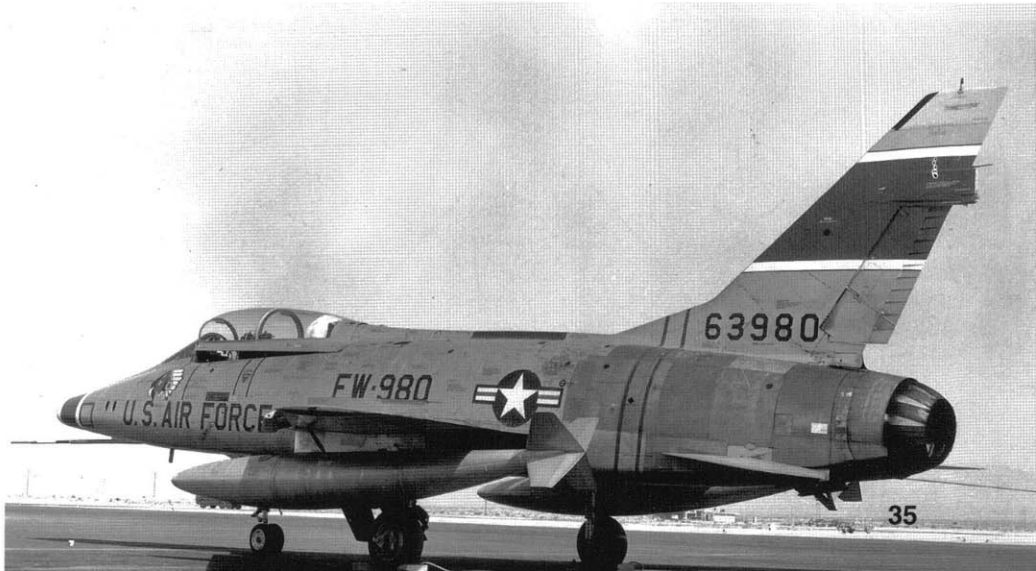


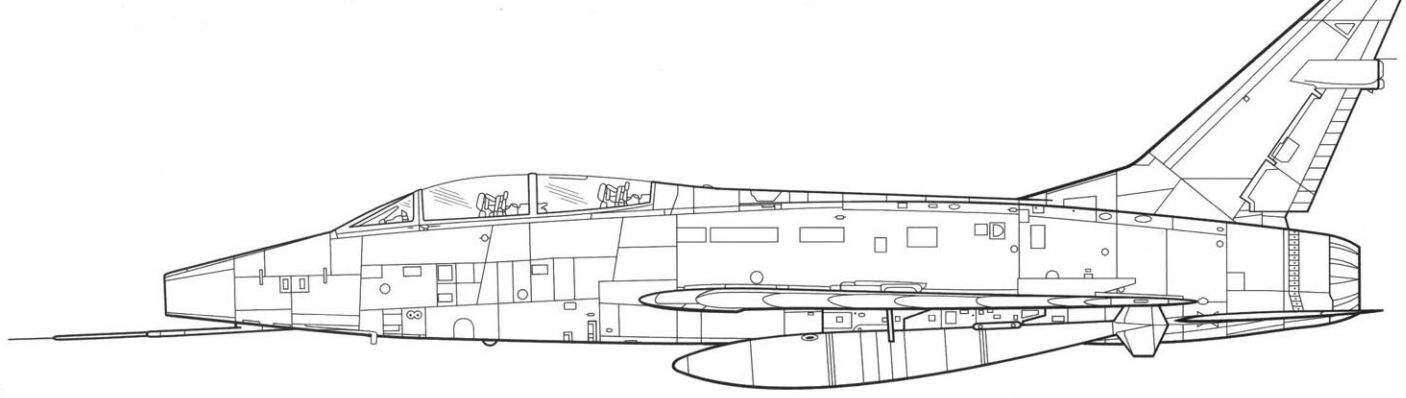
Ground crewmen stand near an F-100F (56-3836) assigned to the 615th TFS at Da Nang AB, South Vietnam in 1965. Two AIM-9B Sidewinder Air-to-Air Missiles (AAMs) are mounted on the port inboard pylon for a MiG Combat Air Patrol (MiGCAP) mission. Two more Sidewinders were fitted to the starboard pylon. A crew access ladder hangs from the left forward cockpit sill. (Lee Holcomb)

This F-100F (56-3960) was assigned to the 4520th CCTW, Fighter Weapons School, at Nellis AFB, Nevada. A one-off camera pod is fitted to the upper nose, while a AGM-12 Bullpup Air-to-Surface Missile is mounted on the inboard right wing pylon. Black and Orange Yellow checkerboards are painted on the nose and tail. The first F-100F trainer aircraft were delivered to Nellis AFB in May of 1957. (USAF)

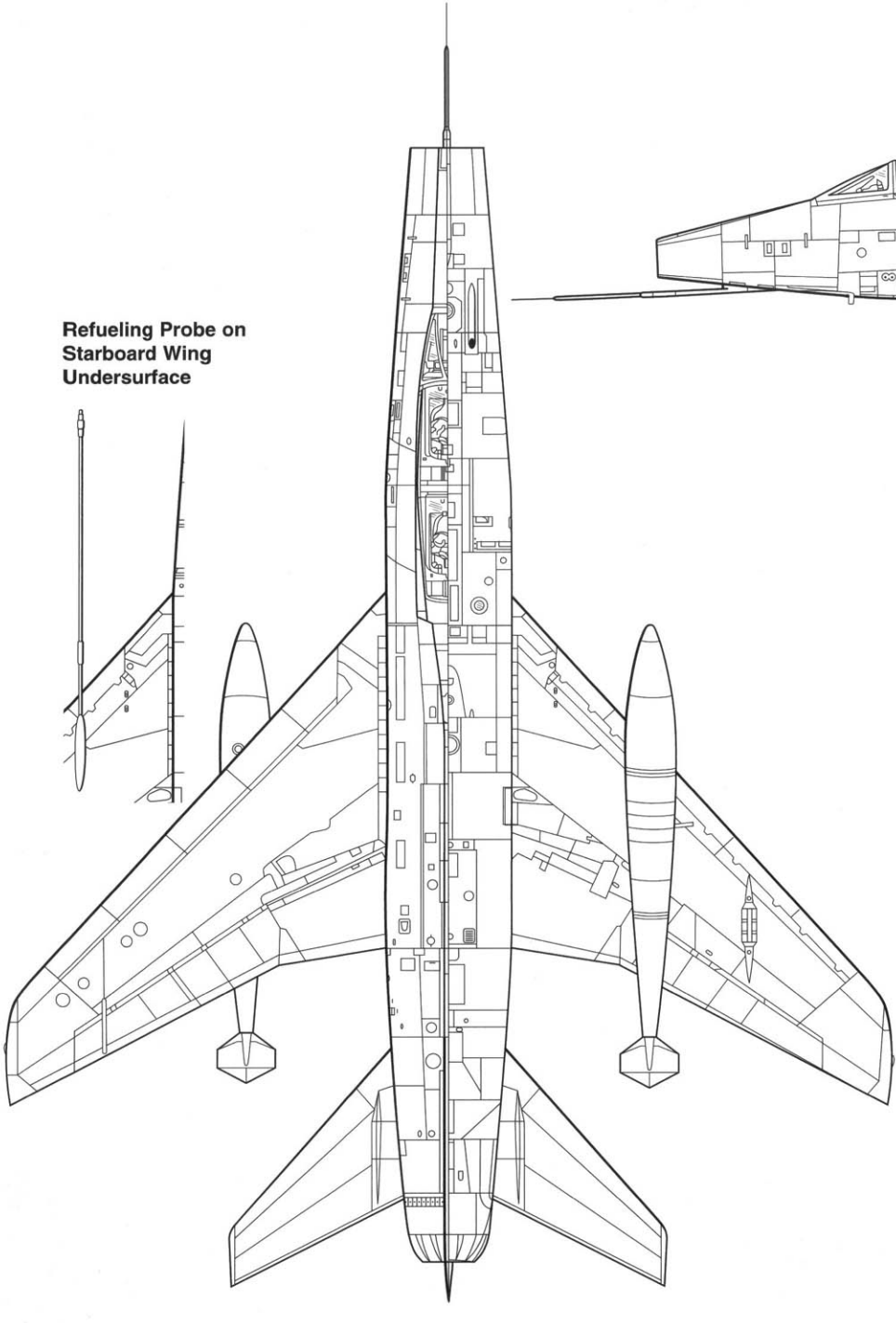
An F-100F (56-3917) from the 474th TFS, 31st TFW from George AFB, California is parked at Moron AB, Spain. This variant had a single, clamshell-opening canopy to cover both cockpits. The access panel for the air conditioner is removed immediately aft of the cockpit and rests further aft along the upper fuselage. Nose and tail markings and the crew box under the windshield are Orange Yellow (FS13538) trimmed in black. (Larry Sutherland)

An F-100F (56-3980) assigned to the 335th TFS, 4th TFW is parked at its home of Seymour Johnson AFB in 1959. The 335th's Indian chief insignia is painted under the windshield, while the nose and tail bands are green (approximately FS14110), with white trim and green edging. Although the 4th TFW was equipped with Republic F-105 Thunderchiefs from May of 1958, they retained F-100Fs as proficiency trainers until the two-seat F-105F became available at the end of 1963. (Via David Menard)





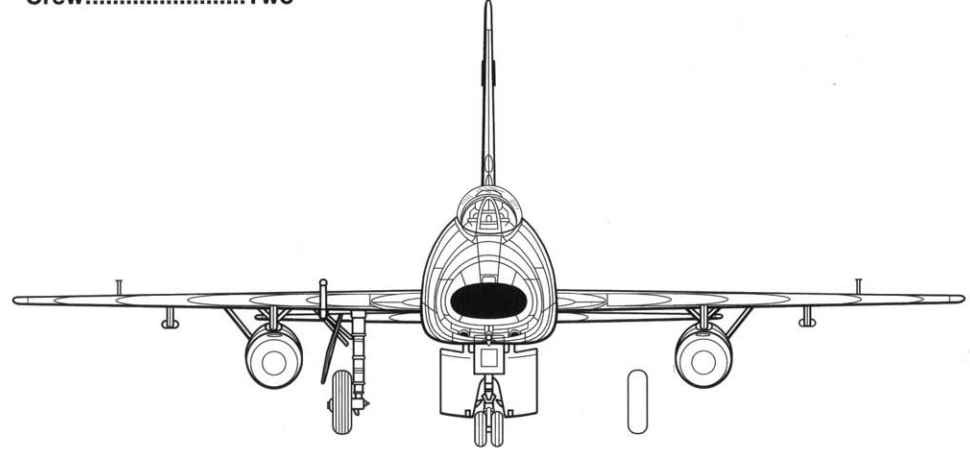
Refueling Probe on Starboard Wing Undersurface



## North American F-100F Super Sabre Specifications

**Wingspan:**.....38 feet 9.375 inches (11.8 M)
**Length:**.....57 feet 1 inch (17.4 M)
**Height:**.....16 feet 2 inches (4.9 M)
**Wing Area:**.....400 square feet (37.2 $M^2$)
**Powerplant:**.....One 16,000 pound thrust Pratt & Whitney J57-P-21 or -21A afterburning turbojet engine.
**Empty Weight:**.....21,712 pounds (9849 KG)
**Maximum Weight:**..39,122 pounds (17,746 KG)
**Armament:**.....Two 20MM Pontiac M39 cannon with 175 rounds per gun in lower fuselage; 5000 pounds (2268 KG) of ordnance on one centerline and six wing pylons, including one Mk. 7 or Mk. 28 nuclear weapon or up to four Philco AIM-9 Sidewinder air-to-air missiles.

**Performance:**
**Maximum Speed:**.875 MPH (1408 KMH) at 35,000 feet (10,668 M)
**Service Ceiling:**....38,500 feet (11,735 M)
**Combat Radius:**...508 miles (818 KM)
**Ferry Range:**.....1661 miles (2673 KM)
**Crew:**.....Two



An F-100F (56-3811) from the 121st TFS, District of Columbia ANG is parked on the Andrews AFB ramp in 1964. Each ANG F-100 squadron had two F-100Fs assigned for conversion training. The Super Sabre's nose probe is folded to prevent damage while the aircraft is parked. The Squadron insignia is painted on the tail, while the Insignia Red tail band has White stars and Insignia Blue trim. (Dave Lucabaugh)

The Thunderbirds had at least one F-100F assigned to the unit at all times. This aircraft (56-3924) was flown during the 1966 show season. It was used for orientation flights of newsmen, local government officials, and other Very Important People (VIPs) that supported the Air Force. The Thunderbird F-100F was usually designated 'Thunderbird Nine' and was flown by the unit's Public Affairs Officer. All F-100s had canopy rail interiors painted flat black. White name panels on the canopy rail had Insignia Blue lettering for the crew chief's name on the starboard side. (Andy Vies)

This F-100F (56-3856) was assigned to the 492nd TFS, 48th TFW at RAF Lakenheath in May of 1965. The Super Sabre carries 450 gallon (1703 L) underwing drop tanks; however, it does not have the in-flight refueling probe normally mounted on the starboard wing. This aircraft is painted Silver as called for in Operation LOOK-ALIKE specifications. Wing fences are in the Squadron's Orange Yellow, while nose and tail chevrons are (from front) Insignia Blue, Orange Yellow, and Insignia Red. (Via Stephen Miller)

Air National Guard F-100Fs carried the same tail code markings as their single seat cousins. This aircraft (56-3902) has the XA tail code assigned to the 119th TFS, New Jersey ANG at McGuire AFB. This unit was activated during the PUEBLO Crisis in early 1968 and deployed to Myrtle Beach AFB, South Carolina. The Super Sabre is camouflaged in the Southeast Asia scheme of Dark Green, Medium Green, Tan, and Light Gray. (Norm Taylor)

An F-100F (56-3992) sits on the rain-soaked ramp at Ellsworth AFB, South Dakota – home of the 175th TFS, South Dakota ANG – during August of 1975. During this period, most ANG aircraft carried the Guard badge on the tail and did not have tail codes. The last three digits of the serial number are repeated in larger White numerals on the tail. A White lobo painted on the upper vertical tail is the Squadron's mascot. (Doug Slowiak)

An out of service F-100F (GT-826/56-3826) originally assigned to 730 *Eskadrille* (Squadron), Royal Danish Air Force is parked at Skrydstrup, Denmark in August of 1982. The aircraft flew MISTY FAC (Forward Air Control) missions in Vietnam before it was sent to Denmark. Flight Systems Incorporated later acquired this Super Sabre from the Danish government. (Kurt Thomisen)

This F-100F (56-3946) assigned to No. 111 *Filo* (Squadron), Turkish Air Force prepares for take off at Eskesihir AB, Turkey in June of 1971. The Super Sabre is camouflaged in the Southeast Asia colors, with Black serial numbers on the tail and Red and White national markings. Turkey changed its national insignia from this square to a red-white-red roundel in 1972. This change was due to difficulty in differentiating the Turkish square marking from the Soviet red star at high speed. North American Aviation built at least 45 F-100F trainers specifically for Military Assistance Program (MAP) sales. The tail bumper extended from the lower aft fuselage prevented damage to the exhaust nozzle by take off or landing 'over rotation' (excessive angle on the main landing gear). (Steve Peltz)

# F-100 Combat Operations

F-100s were put in harm's way at least four times during their illustrious history. The first time was on 14 July 1958, when F-100Ds from the 354th Tactical Fighter Wing (TFW) at Myrtle Beach AFB, South Carolina deployed to Incirlik AB, Turkey. This occurred during the crisis in Lebanon, with the Super Sabres forming part of a Composite Strike Force supporting US troops in Lebanon. The crews returned to Myrtle Beach in September of 1958 with no shots fired. Turkish Air Force F-100s were used during the 1974 crisis with Greece over Cyprus. Additionally, Nationalist Chinese F-100s were involved in the almost daily defense of Formosa (Taiwan) from Communist Chinese forces.

The F-100's heaviest combat involvement came during the Vietnam War. The first Super Sabres deployed to Southeast Asia were F-100Ds from the 510th Tactical Fighter Squadron (TFS). They flew from Clark AB, the Philippines to Don Muang International Airport near Bangkok, Thailand on 16 April 1962, under Operation BELL TONE. This was basically a 'show the flag' mission in support of both the Thai government and the South Vietnamese government, which was in the middle of a crisis of its own.

In September of 1962, Operation SAWBUCK TWO sent the 430th TFS from Cannon AFB, New Mexico, to Takhli Royal Thai Air Base (RTAB), Thailand. The Squadron's primary mission was to put Takhli into condition for possible future operations by both Thai and US squadrons. The secondary mission was tactical support of friendly troops in contact with communist Pathet Lao forces in nearby Laos.

F-100Ds began flying armed reconnaissance missions from Takhli (Operation YANKEE TEAM) on 19 May 1964. This was three months prior to the Gulf of Tonkin Incident of 4 August. (North Vietnamese torpedo boats allegedly attacked two US Navy destroyers off North Vietnam's coast.) 'Hun' pilots first fired their weapons in combat on 6-7 June, when they destroyed a Pathet Lao anti-aircraft site. This site was hampering search and rescue efforts to recover a downed US Navy RF-8 Crusader pilot shot down over the Plaines des Jarres (PDJ) area of central Laos.

Following the Gulf of Tonkin Incident that drew the United States deeper into the Southeast Asia conflict, F-100Ds from the 522nd TFS began flying strike missions against anti-aircraft positions on the PDJ. The defense suppression mission is the most hazardous in combat flying, and in short time the first F-100 loss was recorded. On 18 August 1964, Lt C.A. Clark, a 528th TFS pilot, was flying a Rescue Combat Air Patrol (ResCAP) mission over the PDJ when Anti-Aircraft Artillery (AAA) hit his F-100D (56-3085). Lt Clark brought the mortally wounded F-100D back into Thailand and ejected. He was picked up by a Central Intelligence Agency (CIA) helicopter and returned to Takhli uninjured.

On 10 December 1964, F-100Ds began flying top cover for F-105D Thunderchiefs that were striking targets in North Vietnam under Operation BARREL ROLL. That mission was changed to ROLLING THUNDER in early 1965. On 2 March 1965, the first ROLLING THUNDER strikes sent 44 F-105s and a squadron of South Vietnamese Air Force Douglas A-1 Skyraiders to the Xom Biang military storage facility in North Vietnam. Forty F-100Ds supplied MiG Combat Air Patrol (MiGCAP).

The first ROLLING THUNDER mission also saw the first F-100 losses over North Vietnam. 1/Lt H.J. Lockhart, Jr., a 613th TFS pilot from Da Nang AB, South Vietnam, was hit by heavy Anti-Aircraft Artillery (AAA) fire and shot down over North Vietnam. Lt Lockhart successfully ejected and was taken prisoner by the North Vietnamese; however, he was never returned to the US and Lockhart remains listed as Missing in Action (MIA). On that same day, AAA

**An F-100D (55-3739) assigned to the 3rd TFW sits in a sandbag revetment at Da Nang AB, South Vietnam in mid-1965. It is armed with four 750 pound (340 KG) M117 General Purpose bombs under the wings. This Super Sabre deployed from England AFB, Louisiana to Da Nang on Temporary Duty (TDY) early in the conflict. (Norm Lockard)**

**This F-100D (55-3604) from the 416th TFS, 3rd TFW sits on the ramp at Bien Hoa AB, South Vietnam in July of 1966. The aircraft has the nose markings of Col Hal Comstock, who was an ace with the 56th Fighter Group in Europe during World War Two. Two Medium Blue (FS15187) flashes painted on the tail indicate the 416th TFS. (SSGT David Menard)**

**On 4 April 1965, Capt Don Kilgus shot down a North Vietnamese MiG-17 over Thanh Hoa, North Vietnam. After review of this claim, the 7th Air Force only credited him with a 'Probable.' Capt. Kilgus' 416th TFS F-100D "KAY LYNN" (55-2894) had a South Vietnamese flag painted under the windshield. The Squadron's 'Silver Knights' insignia is painted on the nose, while red mission tallies appear under the windshield. (Col Don Kilgus)**

**This sharkmouthed F-100D (55-3712) 'Pahokee Tiger' was assigned to the 308th TFS, 31st TFW at Bien Hoa AB in December of 1965. At least 110 mission marks are painted on the nose, with circular insignia for the Squadron and for the 'Pahokee Tiger.' Heavy smoke stains from the four 20MM M39 cannon were normal on F-100s deployed to Vietnam. The TAC shield and thunderbolt appears to be painted over on the tail. (SSGT David Menard)**

fire hit the F-100D flown by Lt J.A. Cullen of the 428th TFS at Takhli. Lt Cullen turned his damaged F-100 toward the South China Sea and prayed the bird would stay together long enough for him to eject over the water. It did and Cullen was pulled from the water by a USAF Kaman HH-43 Huskie 'Pedro'[1] helicopter out of Da Nang.

Although the F-100 pilots' mission at this time was air superiority over North Vietnam, there was actually few encounters between the 'Huns' and the North Vietnamese MiG-17, MiG-19, and MiG-21 fighters. The closest any F-100 pilot came to scoring a victory came on 4 April 1965, when Captain Don Kilgus 'shot down' a North Vietnamese MiG-17 (Fresco). The US Seventh Air Force reduced Kilgus' claim to a 'probable' victory, although several other flight crews saw the MiG-17 go down.

F-100s began flying Close Air Support (CAS) missions inside South Vietnam on 9 March 1965. Mission totals rapidly added up due to the high demand for CAS by US and South Vietnamese ground forces. The Super Sabres flew these missions from several bases located throughout Southeast Asia.

Several modifications were made to the F-100 fleet for combat operations in Southeast Asia. These included the SST-181 X-band radar transmitter for night bombing, and the AN/APG-25/26 Radar Homing And Warning (RHAW) system. The latter warned 'Hun' pilots of any threat from radar-directed AAA or Surface-to-Air Missiles (SAMs). The AN/APG-25/26 included a quartet of small 'tit' (bump) antennas mounted at 45° to the aircraft's centerline, two under the nose in front of the pitot tube, and two more on the vertical tail's aft edge just above the rudder. F-100As sent to Nationalist China (Taiwan) under the US Military Assistance Program (MAP), and many remaining F-100Cs in service, were retrofitted with the F-100D vertical tail and RHAW equipment.

Not including the BELL TONE deployment to Don Muang Airport in 1961, F-100s were based at Takhli until mid-1965. Bien Hoa AB, South Vietnam was the home of the 3rd TFW beginning in November of 1965. The 35th TFW went to Phan Rang AB, South Vietnam in October of 1966. The 37th TFW called Phu Cat AB, South Vietnam home beginning in March of 1967. The 31st TFW was based at Tuy Hoa AB, South Vietnam from December of 1966. Da Nang had several squadrons on a Temporary Duty (TDY) status based there until the late summer of 1965. TDY squadrons also deployed to Tan Son Nhut AB, South Vietnam, which had one F-100 unit until June of 1966.

Included among these squadrons were four Air National Guard (ANG) units that were activated during the PUEBLO Crisis of 1968.[2] Both the 136th TFS, New York ANG and the 188th TFS, New Mexico ANG deployed to Tuy Hoa. Simultaneously, the 120th TFS, Colorado ANG went to Phan Rang and the 174th TFS, Iowa ANG was sent to Phu Cat. ANG 'Hun' pilots flew 24,000 sorties between May of 1968 and April of 1969, losing seven pilots.

The last F-100 left Southeast Asia on 30 July 1971. Super Sabre pilots flew 360,283 sorties during the Vietnam War. Enemy anti-aircraft fire downed all 186 F-100s lost in combat in Southeast Asia. Sapper attacks against air bases in South Vietnam destroyed seven Super Sabres on the ground. Additionally, 45 F-100s were lost due to operational reasons, such as losing an engine during a mission.

There were two special missions flown during the combat in Vietnam by specially modified F-100F aircraft – WILD WEASEL I and MISTY FAC.

[1] 'Pedro' was the call sign for the HH-43 combat search and rescue helicopter in Southeast Asia.

[2] North Korean warships captured the US Navy intelligence gathering ship USS PUEBLO (AGER-2) in international waters off North Korea on 23 January 1968.

Access panels are opened on a 416th TFS F-100D (56-3340) undergoing a periodic maintenance inspection on the ramp at Da Nang AB in 1965. The nose compartment door provides access to the avionics compartment, while gun bay doors are removed from the lower fuselage. The bay immediately aft of the cockpit houses the rear electrical and electronics equipment. Early in the war there were virtually no indoor facilities at the forward bases. (Lee Holcomb)

A 481st TFS F-100F (56-3923) is parked on the ramp at Tan Son Nhut AB, South Vietnam in October of 1965. The wing leading edge slat lowered soon after the aircraft stopped moving. An armed guard beside the Super Sabre watches for Viet Cong (VC) guerrillas that threatened US bases in South Vietnam. US engineers used aluminum sheets to construct makeshift aircraft ramps and runways during the Vietnam War. (USAF)

An F-100D (56-3040) assigned to the 429th TFS, 474th TFW flies on a ground support mission against VC targets in South Vietnam in 1966. The Super Sabre is armed with 750 pound (340 KG) M117 General Purpose bombs on the inboard wing pylons and Cluster Bomb Unit (CBU) pods on the outboard pylons. A large mission tally is painted on the nose, while tail markings are Black and Orange Yellow. (USAF)

A flight of 3rd TFW F-100Ds (from front: 55-3647, 55-3559, and 55-3572) fly to targets in South Vietnam during February of 1966. All three aircraft are armed with bombs and CBU dispensers. F-100s began to be camouflaged late in 1965. Mixed flights of Silver and camouflaged Super Sabres were common until all aircraft were repainted during Inspection and Repair As Necessary (IRAN). (USAF)

(Above Left) A 35th TFW F-100D (56-3184) drops a modified 500 pound (227 KG) Mk. 82 bomb while on a low-level pass over South Vietnam in 1966. The bomb is fitted with Snakeye fins to retard its drop speed, which allowed the aircraft to be well away from the blast. This Super Sabre also carries finned napalm tanks under the wings for anti-personnel missions. USAF and 63184 on the tail are black; tail codes were not generally applied until 1967. (USAF)

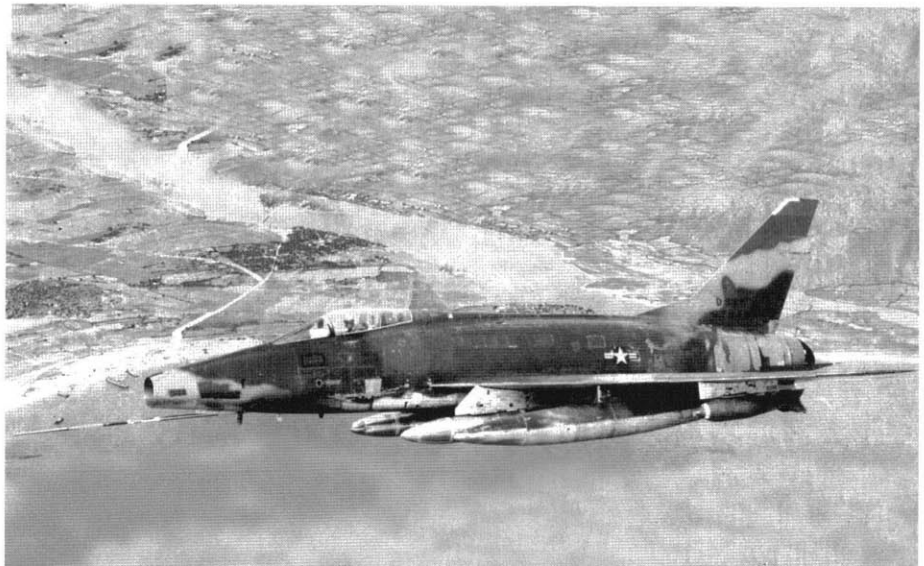
(Above) A 416th TFS F-100D (55-3634) releases a pair of 500 pound BLU-27 napalm bombs over VC positions in South Vietnam in 1966. These bombs scattered flaming jellied gasoline over a wide area and were primarily used against troop concentrations. Napalm bombs were usually left in a natural metal finish. The 416th TFS was assigned to the 37th TFW, which flew from Phu Cat AB, South Vietnam between the spring of 1967 and the spring of 1969. (USAF)

(Left) An F-100D rolls in 'hot' over its target in 1966. The wing leading edge slats are partially deployed while the aircraft rolls to port. It is armed with two 500 pound (227 KG) Mk 82 Snakeye retarded bombs on the inboard wing pylons. The mid-wing pylons are fitted with 335 gallon (1268 L) fuel tanks, while 500 pound BLU-27 napalm bombs are mounted on the outboard pylons. All F-100s were retrofitted with arresting gear hooks under the aft fuselage from 1960. The hook was a flat section of spring steel the pilot released to engage cables strung across the end of the runway. F-100D/F aircraft had the hook to starboard of the tail skid, while earlier F-100A/Cs located the hook to port. The point guard protruding from the aft fuselage was designed to prevent accidental arresting hook engagements. (USAF)

A Colorado ANG pilot checks the log of this F-100C (VS/54-1838) with his crew chief in a revetment at Phan Rang AB, South Vietnam. The 120th TFS, Colorado ANG at Buckley Air National Guard Base (ANGB), Aurora was activated in January of 1968. It was deployed to Phan Rang, where the Squadron was assigned to the 35th TFW until April of 1969. The 120th and three other ANG squadrons – New York's 136th, Iowa's 174th, and New Mexico's 188th – flew the only F-100Cs in combat over Vietnam. (Henry Reed)

An F-100D (56-3415) launches 2.75 inch (70MM) Folding Fin Air Rockets (FFARs) at VC positions in South Vietnam. The seven-round LAU-68 rocket pods were mounted on the outboard wing pylons. F-100s often used FFARs to attack 'soft' enemy targets, including troop concentrations and light vehicles. Warheads for these rockets included High Explosive (HE), White Phosphorous (WP) for target marking, and flechette for anti-personnel attacks. (USAF)

A well-worn F-100D (56-2944) assigned to the 31st TFW at Tuy Hoa AB flies over the coastal regions of South Vietnam in December of 1968. Extensive low-level flying combined with frequent servicing to cause paint to wear off the airframe. This Super Sabre is armed with BLU-27 napalm bombs on the inboard wing pylons and 750 pound (340 KG) M117 bombs on the outboard pylons. (USAF via Norm Taylor)



A 416th TFS F-100D (HE/56-3054) sits outside one of the concrete and metal tube aircraft shelters at Bien Hoa in January of 1969. These shelters provide protection against grenades and rockets used by VC forces when they attacked US air bases in South Vietnam. HE was the tail code for aircraft assigned to the 37th TFW, which was based at Phu Cat during this time. (Curt Burns)

SGT Leonard Williams works on *Tinker*'s radio, a 352nd TFS F-100D, on the Phan Rang AB, South Vietnam ramp in September of 1969. This Squadron was assigned to the 35th TFW. A red Anti-Foreign Object Damage (FOD) cover is fitted over the engine intake. Williams' colleague works on the ammunition feed chutes for the two port 20MM cannon. Various other access panels have been removed for servicing. Most aircraft maintenance in Southeast Asia was performed on the open ramps. (USAF)

A pilot of the 90th TFS, 3rd TFW gets the traditional hosing down following the completion of his 100th mission from Bien Hoa AB, South Vietnam in October of 1969. A fellow pilot soaks his colleague while he climbs out of the F-100D *Nashville Sound* (CB/55-2932). A red carpet has been laid out on the tarmac for the pilot. The normal 'tour' for pilots in Vietnam consisted of 100 missions. (Ron Picciani)

*Jeanne Kay* (SM/56-2910) was an F-100D assigned to the 308th TFS, 31st TFW at Tuy Hoa AB in 1970. This Super Sabre is equipped with an AN/APR-25/26 Radar Homing And Warning (RHAW) antenna fairing on the aft edge of the vertical fin fairing. The antenna warned the pilot of radar-guided Surface-to-air Missiles (SAMs) and Anti-Aircraft Artillery (AAA). Green and white tail checks indicated the 308th TFS. (Norm Taylor)

(Above) Armament specialists reinstall 'safe pins' on all weapons and ordnance pylons of THOR'S HAMMER. This F-100D (SS/56-2927) was assigned to the 309th TFS, 31st TFW at Tuy Hoa AB in April of 1970. Pilots stopped in the de-arming pits for this procedure after landing from a combat mission. The Wing insignia is painted high on the vertical tail. (USAF)

(Above Right) PATRICIA is an F-100D (VZ/56-3381) assigned to the 612th TFS, 35th TFW based at Phan Rang AB, South Vietnam in 1971. It is armed with 750 pound (340 KG) M117 bombs fitted with fuse extenders, which ensured the bomb's detonation above ground. This aircraft is sitting five minute alert at Phu Cat AB waiting for a call that the GIs were in trouble. (Via Joe Bruch)

(Right) Armorers load 20MM ammunition for the two port M39 cannon on this F-100D (VZ/56-3307) in March of 1971. This Super Sabre was assigned to the 615th TFS at Phu Cat AB. One man checks the aft magazine to ensure the 200-round belt is properly loaded, while a colleague ensures the belt's correct position in the cannon's breech mechanism. A 500 pound (227 KG) Mk 82 bomb is loaded onto the inboard wing pylon. Worn paint on the fuselage and the wing's leading edge testifies to the F-100D's extensive use on Close Air Support (CAS) missions over South Vietnam. (Norm Taylor)

A pristine F-100D (VM/55-2924) assigned to the 352nd TFS, 35th TFW taxis to the active runway at Phu Cat AB in March of 1971. An AN/APG-25/26 RHAW antenna is mounted under the nose intake. This Super Sabre is armed with 500 pound (227 KG) Mk 82 bombs on the inboard wing pylons and CBU launchers on the outboard pylons. The area around the gun ports was painted Black to hide gas stains. The crew panel under the windshield and the tail band are Orange Yellow and Black. Camouflage paint has just begun to burn away from the aft fuselage. (Norm Taylor)

A pair of 612th TFS F-100Ds (VS/55-3662 and VS/55-2863) sit in a revetment at Phu Cat AB on 10 March 1971. The left aircraft is armed with BLU-71 napalm fire bombs, while the right machine has Snakeye retarded 500 pound Mk 82 bombs. The Super Sabres were parked at Phu Cat's five-minute alert ramp, where two aircraft were ready for takeoff, i.e. 'cocked and ready.' (Via Joe Bruch)

Betty Boop (foreground, VZ/56-3053) and LEPIDOPEROUS LOLA (VZ/55-3658) prepare to launch from Phan Rang in 1971. Both F-100Ds were assigned to the 615th TFS at the South Vietnam base. These Super Sabres are armed with CBU pods for an anti-personnel mission against VC guerrillas. The last F-100 combat mission over South Vietnam was flown from Phan Rang on 26 June 1971. (USAF)

# WILD WEASEL I

In 1965, the US Air Force recognized the threat posed by Surface-to-Air Missiles (SAMs) encountered over North Vietnam. The strike pilots were being forced to drop their ordnance prior to the target area or face possible destruction from the waiting SAMs. North American Aviation modified ten F-100Fs under Project WILD WEASEL in the fall of 1965. These aircraft were equipped with several new devices for monitoring Soviet radars. This gave the Electronic Warfare Officer (EWO) the ability to warn the strike aircraft of any impending threat. It also allowed the EWO to attack those threats with various ordnance, including the new Navy-developed AGM-45 Shrike Anti-Radiation Missile (ARM) beginning in May of 1966.

The ten WILD WEASEL aircraft were built at Inglewood, California, then tested at the Eglin AFB, Florida Armament Proving Ground before deploying to Korat RTAB, Thailand, on Thanksgiving Day 1965. These F-100Fs were attached to 6234th TFW(Provisional) at Korat. Every flight to a target into North Vietnam had at least one F-100F Weasel leading the way. They flew ahead of the strike force, usually with F-105s as both escort and attack aircraft. Once a North Vietnamese radar, be it SAM or AAA, targeted the incoming F-100F Weasel flight, the EWO would locate the radar, then mark the target using either High Velocity Air Rockets (HVARs) or smoke rockets. The F-105 escorts would then bomb the site or at least force them to turn off the tracking radar, allowing the strike force to safely pass.

Although completely successful, WILD WEASEL I had one drawback – the F-100F was much slower than the F-105. This forced the strike force to slow down, which made them more vulnerable to attack. The USAF then decided to use the two-seat F-105F Thunderchief as the next generation WILD WEASEL aircraft. The last F-100F WILD WEASEL flight occurred on 11 July 1966.

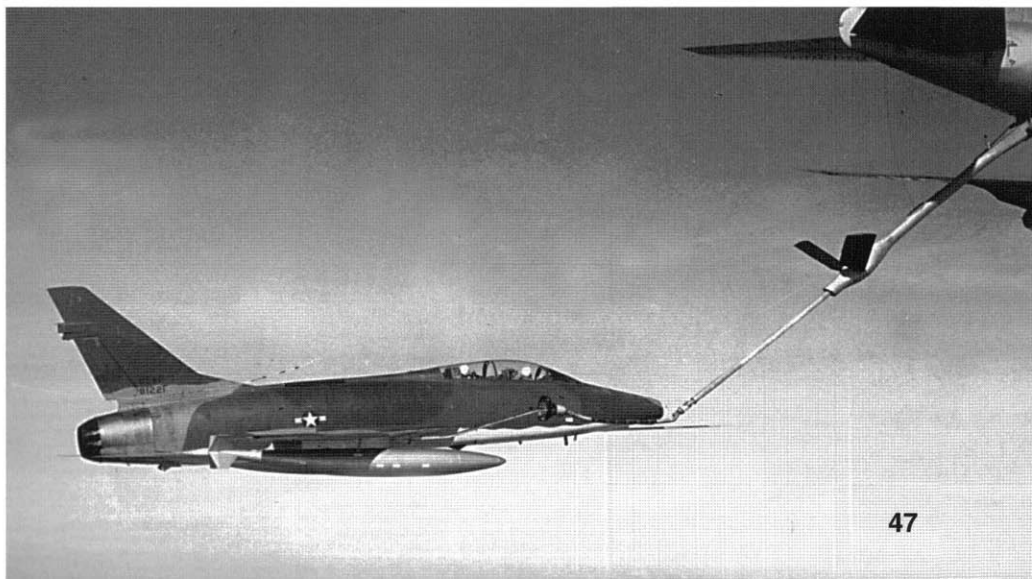
# MISTY FAC

Several F-100Fs were converted for a new high-speed Forward Air Control (FAC) mission called MISTY FAC from June of 1967. An aircraft much faster than the available FAC aircraft – including the North American OV-10 Bronco or Cessna O-2A/B – was needed for missions anywhere inside North Vietnam or any area considered to be a high threat area like the Plaines des Jarres (PDJ) region of Laos. The Seventh Air Force began using F-100Fs with FAC pilots in the rear seat that were in direct communication with whatever strike aircraft were assigned to their mission, usually in Route Pack 1[1] in southern North Vietnam. The MISTY FAC F-100Fs were assigned to Detachment 1, 612th TFS, 37th TFW at Phu Cat AB, South Vietnam. The MISTY FAC program was halted when the last F-100s left Southeast Asia in mid-1971.

[1]The US forces divided North Vietnam into seven Route Packages (RPs) to coordinate air operations among Air Force, Navy, and Marine units. They were numbered RP 1 in the south, immediately north of South Vietnam; followed by 2, 3, 4, 5, 6A (including the North Vietnamese capital of Hanoi and the area northwest of the city), and 6B (the northernmost coastal sector, including the port of Haiphong).

**An F-100F Wild Weasel I (58-1226) prepares for takeoff from Korat RTAB, Thailand in early 1966. Wild Weasel I F-100Fs were specially modified for the defense suppression mission against North Vietnamese SAM sites from the spring of 1966. This included installation of AN/APG-25/26 RHAW antennas under the nose intake and on the aft vertical tail. (Ed White)**

**A Wild Weasel F-100F (58-1221) takes on fuel from a Boeing KC-135A tanker returning from a mission into North Vietnam in 1966. The Super Sabre's boom fits into a basket mounted on the end of the KC-135's refueling boom. The Wild Weasel F-100F detachment was attached to the 6234th TFW (Provisional) at Korat, which operated the F-100F Weasels until July of 1966, when they were replaced by F-105F Wild Weasel III aircraft. (Ed White)**



PROTESTER'S PROTECTOR (VZ/58-1222) was an F-100F assigned to the 35th TFW at Phu Cat AB, South Vietnam in April of 1969. This Super Sabre is armed with 750 pound (340 KG) M117 General Purpose bombs. F-100Fs flew both the fighter-bomber and 'Fast FAC' Forward Air Control missions in South Vietnam. (USAF)

An F-100F (CB/58-1213) from the 90th TFS, 3rd TFW sits in one of the protective shelters that were constructed at Bien Hoa AB in 1969. The shelters were built to protect the aircraft from VC rocket attacks. Crew name blocks under the windshield and aft cockpit are Medium Blue with white trim, while drop tank noses are painted Medium Blue. (Curt Burns)

A 308th TFS, 31st TFW F-100F (SM/56-3870) leads a 352nd TFS, 35th TFW F-100D (VM/56-2985) back to base in August of 1970. They were returning from a mission into Route Pack 1, just across the Demilitarized Zone (DMZ) in southern North Vietnam. Both aircraft retain their underwing pylons for increased stability, even after dropping all ordnance. The F-100F has a blue and white checkerboard on the fin tip, while the F-100D has a plain blue fin tip. (USAF)

A 352nd TFS F-100F (VM/56-3874) is fueled at Udorn RTAB, Thailand en route to the US on 31 May 1971. MXU-648 baggage pods – modified from BLU-1/27 series napalm containers – are mounted on the inboard wing pylons, while 335 gallon (1268 L) tanks are fitted to the middle wing pylons. F-100Fs remained in Southeast Asia for several months after the F-100Ds left the theatre in July of 1971. (Henry Tyspak)

An F-100F (SD/56-3813) assigned to the 306th TFS, 31st TFW at Tuy Hoa sits in a revetment at Phu Cat on 5 September of 1971. The name block under the windshield is red with white trim. This Super Sabre flew both ground attack and operational training missions in Vietnam. The F-100Fs departed South Vietnam in the fall of 1971, after the F-100Ds had already returned to the US. (Via Joe Bruch)

# QF-100 Program and Test Duties

The last 'combat' flown by F-100s came in a strictly defensive mode. Sperry Defense and Space Systems Division converted 325 F-100Ds and Fs into **QF-100** pilotless drone aircraft from September of 1981. These Super Sabres were previously stored at Davis-Monthan AFB, Arizona following their retirement from USAF and ANG service. Aircraft selected for conversion were flown from Davis-Monthan to Sperry's Litchfield Park facility in Phoenix, Arizona.

This conversion entailed adding propane burner pods to both wingtips, which increase the QF-100's Infra-Red (IR) signature. IR homing missiles were intended to track the heat generated by the pods rather than the drone's engine. This would often result in the missile hitting either of the two pods, which increased the QF-100's chances for survival and allow it to be flown again. Chaff and flare dispensers fitted under the wing enable the aircraft to simulate enemy aircraft. A self-destruct mechanism is mounted and takes over within six minutes if the ground controller loses contact with the drone. A pilot in the cockpit flew the QF-100 for training ground controllers and for ferrying to the drone's base. QF-100s were intended to fly up to seven flights involving missile engagements before they were lost.

After conversion, the QF-100s were then flown either to Holloman AFB, New Mexico or Tyndall AFB, Florida and used as targets for surface-to-air or air-to-air missile attacks. The first QF-100 drone flight occurred at Tyndall in February of 1982. Honeywell/Convair QF-106 Delta Dart drones began replacing the QF-100s from late 1991.

Both the US Army and US Navy used a few F-100s on loan from the USAF for various test and evaluation missions. More recently, Flight Systems Inc. has flown F-100s on target-towing duties under contract with the US Department of Defense.

A pilotless QF-100D (157/56-2961) flies over the New Mexico desert during the late 1980s. The nose, wingtips, and tail surfaces are painted International Orange (FS12197) over the faded camouflage paint. The QF-100s were used as live targets for both air-to-air and surface-to-air missile live-fire tests. Sperry converted approximately 325 F-100Ds and Fs into QF-100 drones beginning in September of 1981. (USAF)

# Rolling Thunder!

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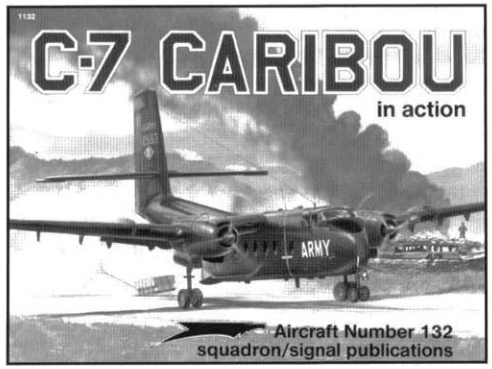


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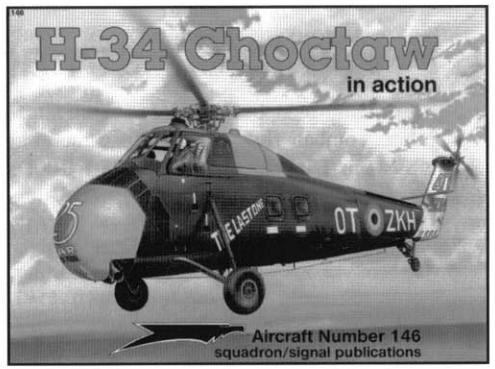


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(Above) Colonel George Laven, Jr. flew this F-100C (54-2076) when he commanded the 479th Tactical Fighter Wing (TFW) at George AFB, California in May of 1958. The 435th Tactical Fighter Squadron (TFS) insignia is painted on the forward fuselage, while the 831st Air Division emblem is on the tail.

(Below) PROTESTER'S PROTECTOR was an F-100F (VZ/58-1222) assigned to the 615th TFS, 35th TFW. This Wing was based at Phu Cat AB, South Vietnam in April of 1969. F-100Fs were assigned to both fighter-bomber and Forward Air Control (FAC) missions between 1965 and 1971.

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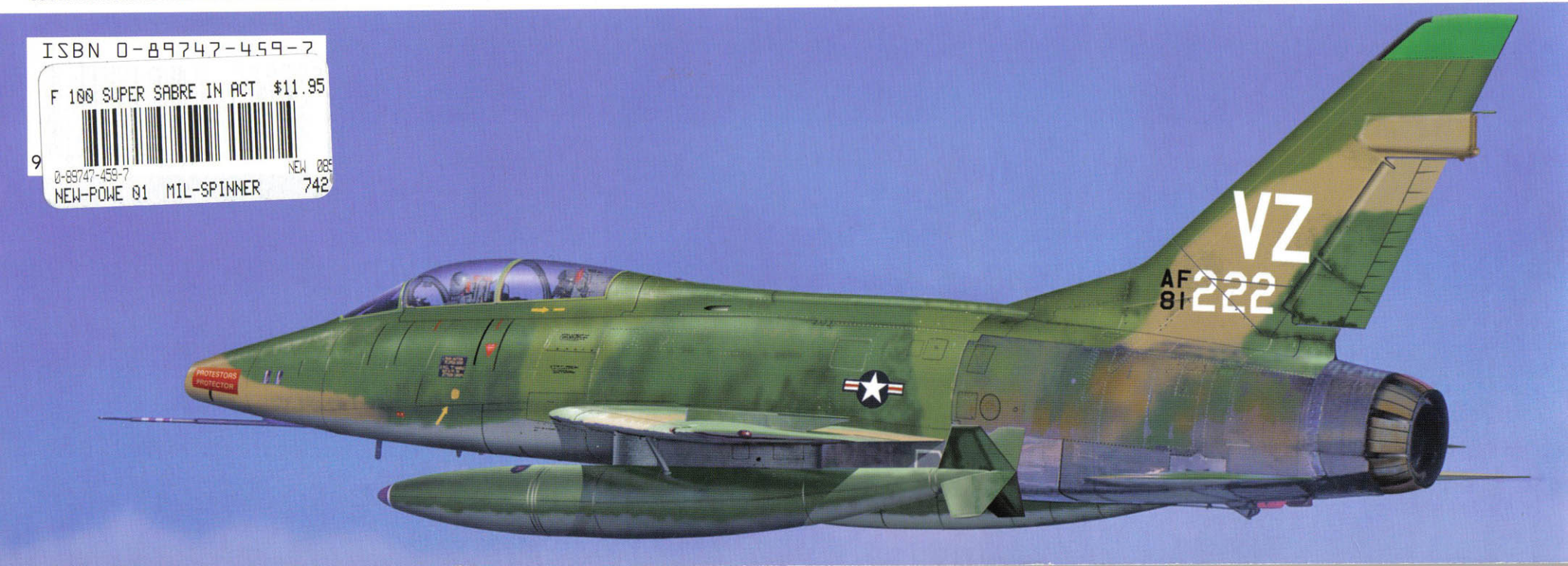
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